"APPROVED FOR RELEASE: 06/12/2000 CIA-RDP86-00513R000308510016-7

CHERNIK, G.V.

Relocating electric stations in geological prospecting. Razved i okh. nedr. 30 no.3:58-59 Mr '64 (MIRA 18:1)

1. Severo-Kavkazskiy gorno-metallurgicheskiy institut.

APPROVED FOR RELEASE: 06/12/2000 CIA-RDP86-00513R000308510016-7"

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CHERNIK, G.V.

Electric power stations in geological prospecting. Izv.vys.ucheb. zav.; geol.i razv. 7 no.8:107-111 Ag '65.
(MIRA 18:11)

1. Severo-Kavkazskiy gornometallurgicheskiy institut.

APPROVED FOR RELEASE: 06/12/2000 CIA-RDP86-00513R000308510016-7"

"APPROVED FOR RELEASE: 06/12/2000 CIA-RDP86-00513R000308510016-7

L 6334-66 EWT(m)/ETC/EWG(m)/EWP(t)/EWP(b) IJP(c) RDW/JD

ACCESSION NR: AP5019876 UR/0181/65/007/008/2524/2527

AUTHOR: Yefimova, B. A.; Kaydanov, V. I.; Moyzhes, B. Ya.; Chernik, I. A.

TITLE: On the band model of SnTe

SOURCE: Fizika tverdogo tela, v. 7, no. 8, 1965, 2524-2527

TOPIC TAGS: tin compound, telluride, electric conductivity, Hall effect, thermoelectric power, Nernst effect, impurity band

ABSTRACT: By introducing impurities (Sn, Te, Cl) the authors have succeeded in obtaining polycrystalline samples of p-SnTe with concentrations at p^*_{300K} = 2.8×10^{19} --2.0×10^{21} cm^{-3}, and determine the band model of SnTe for this range of concentrations, which was not investigated thoroughly in the past. Measurements were made of the electric conductivity, thermoelectric power, Hall constant, and the isothermal constant of the transverse Nernst-Ettingshausen effect, as well as the variation of the thermoelectric power in a magnetic field. The authors suggest that the results obtained provide some new evidence of the correctness of the semiconductor model of SnTe with two valence bands. The anomalously large Nernst-Ettingshausen effect can then be explained by supplementing this model with an account of the intraband scattering. Orig. art. has: 2 figures, 1 formula, and 1 table.

Card 1/2

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"APPROVED FOR RELEASE: 06/12/2000 CIA-RDP86-00513R000308510016-7

L 6334-66

ACCESSION NR: AP5019876

ASSOCIATION: Institut poluprovodnikov AN SSSR, Leningrad (Institute of Semiconductors AN SSSR)

SUBMITTED: 12Mar65 ENCL: 00 SUB CODE: SS

NR REF SOV: 000 OTHER: 006

nw

Card 2/2

APPROVED FOR RELEASE: 06/12/2000 CIA-RDP86-00513R000308510016-7"

"APPROVED FOR RELEASE: 06/12/2000 CIA-RDP86-00513R000308510016-7

YEFIMOVA, E.A.; KAYDANOV, V.I.; MOIZHES, B.Ya.; SMIRNOV, I.A.

Model of SnTe band structure. Fiz. tver. tela 7 no.8:2524-2527 Ag '65. (MIRA 18:9)

1. Institut poluprovodnikov AN SSSR, Leningrad.

APPROVED FOR RELEASE: 06/12/2000 CIA-RDP86-00513R000308510016-7"

"APPROVED FOR RELEASE: 06/12/2000 CIA-RDP86-00513R000308510016-7

L 21227-66 EWT(m)/ETC(f)/EWG(m)/EWP(t) IJP(c) RDW/JD
ACC NR: AP6003823 SOURCE CODE: UR/0181/66/008/001/0295/0297

AUTHORS: Zhitinskaya, M. K.; Kaydanov, V. I.; Chernik, I. A.

ORG: Leningrad Polytechnic Institute im. M. I. Kalinin (Leningradskiy politekhnicheskiy institut)

TITLE: On the nonparabolicity of the conduction band of lead telluride

SOURCE: Fizika tverdogo tela, v. 8, no. 1, 1966, 295-297

TOPIC TAGS: conduction band, lead compound, telluride, Nernst effect, Ettingshausen effect, carrier density, carrier scattering

ABSTRACT: The authors report the results of an investigation of the electric conductivity σ, the Hall constant R, the thermoelectric power α, and the coefficient Q of the isothermal transverse Nernst-Ettingshausen effect, made on ten samples of n-type PbTe with concentrations 2.1×10^{18} -- 1.9×10^{20} cm^{-3} in the temperature interval 77 -- 300K. The samples were prepared by zone melting and subsequent

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L 21227-66
ACC NR: AP6003823 O

heat treatment in such a way that the investigated properties were not dependent on the method of sample preparation. Plots of the values of Q and of the dimensionless Nernst-Ettingshausen effect did not agree with the results expected from a simple parabolic model. The experimental results were analyzed on the basis of the theory developed by J. Kolodziejczak and S. Zukatynski (Phys. Stat. Sol. v. 5, 145, 1964) for an ellipsoidal nonparabolic band as applied to cubic crystals. And show that the effective mass of the carriers increases in the semiconductor with increasing concentration in accordance with Kane's model, generalized to the case of ellipsoidal equal-energy surfaces. From the analysis of the data it is concluded that the experimental dependence of the measured quantities on the carrier density can be attributed to a mixed scattering of the carriers by acoustic lattice vibrations and impurity ions. Orig. art. has: 2 figures and 2 formulas.

SUB CODE: 20/ SUBM DATE: 09Jun65/ ORIG REF: 001/ OTH REF: 004

Card 2/2 dda

APPROVED FOR RELEASE: 06/12/2000 CIA-RDP86-00513R000308510016-7"

"APPROVED FOR RELEASE: 06/12/2000 CIA-RDP86-00513R000308510016-7

CHERNIK, L.N.; BABKIN, A.S.

Metasomatic granites in eastern Transbaikalia and some characteristics of their genesis. Zap.Vses.min.ob-va. 92 no.2:159-172 '63. (MIRA 16:5)

1. Leningradskiy gornyy institut.
(Transbaikalia--Metasomatism (Geology))
(Transbaikalia--Granite)

APPROVED FOR RELEASE: 06/12/2000 CIA-RDP86-00513R000308510016-7"

"APPROVED FOR RELEASE: 06/12/2000 CIA-RDP86-00513R000308510016-7

BUNIN, A.Ya., kand.med.nauk; YAKOVLEV, A.A., nauchnyy sotrudnik; POZHARSKAYA, A.M., kand.khim.nauk; CHERNIK, L.Ye., nauchnyy sotrudnik; FINKEL'SHTEYN, M.Z., kand.khim.nauk; TIMOKHIN, I.M., kand.khim.nauk

Method for increasing and prolonging the hypotensive action of pilocarpine. Vest.oft. no.4:63-65 '61. (MIRA 14:11)

1. Gosudarstvennyy nauchno-issledovatel'skiy institut glaznykh bolezney imeni Gel'mgol'tsa (for Bunin, Yakovlev). 2. Vsesoyuznyy nauchno-issledovatel'skiy khimiko-farmatsevticheskiy institut imeni S. Ordzhonikidze (for Pozharskaya, Chernik). 3. Institut neftekhimicheskoy i gazovoy promyshlennosti imeni I.M. Gubkina (for Finkel'shteyn, Timokhin).

(PILOCARPINE)

APPROVED FOR RELEASE: 06/12/2000 CIA-RDP86-00513R000308510016-7"

"APPROVED FOR RELEASE: 06/12/2000 CIA-RDP86-00513R000308510016-7

POPOV, Anatoliy Vasil'yevich; CHERNIK, R.I., red.; POPOV, V.N., tekhn. red.

Anatolii Tikhonovich Asotikov. Tambov, Tambovskoe knizhnoe izd-vo, 1960. 17 p. (MIRA 16:3)
(Asotikov, Anatolii Tikhonovich)
(Rzhaksa District—Agricultural workers)

APPROVED FOR RELEASE: 06/12/2000 CIA-RDP86-00513R000308510016-7"

"APPROVED FOR RELEASE: 06/12/2000 CIA-RDP86-00513R000308510016-7

CHERNIK, T.P.

Characteristics of Bact.radiobacter. Trudy Vses. inst.sel'khoz. mikrobiol. 13:74-86 '53. (MLRA 8:1)
(Radiobacter)

APPROVED FOR RELEASE: 06/12/2000 CIA-RDP86-00513R000308510016-7"

"APPROVED FOR RELEASE: 06/12/2000 CIA-RDP86-00513R000308510016-7

CHERNIK, T. P.

"Study of a Bacterium of the Type Bacterium Radiobacter, Obtained From the Root System of Flax and Wheat." Cand Biol Sci, Inst of Microbiology, Acad Sci Latvian SSR, Riga, 1955. (KL, No 11, Mar 55)

So: Sum No 670, 29 Sept 55 - Survey of Scientific and Technical Dissertations Defended at USSR Higher Educational Institutions (15)

APPROVED FOR RELEASE: 06/12/2000 CIA-RDP86-00513R000308510016-7"

"APPROVED FOR RELEASE: 06/12/2000 CIA-RDP86-00513R000308510016-7

BONDARENKO, G.A. (Moskva); CHERNIK, T.P. (Moskva)

Digestion in the rumen of ruminants. Usp.sovr.biol. 42 no.2:229-248 S-O '56. (MLRA 9:11)
(RUMINATION)

APPROVED FOR RELEASE: 06/12/2000 CIA-RDP86-00513R000308510016-7"

"APPROVED FOR RELEASE: 06/12/2000 CIA-RDP86-00513R000308510016-7

CHERNIK, T.P.; KRIVISKIY, A.S.

Induction of mutations by ultraviolet irradiations and nitrous acid in the extracellular phage FX174. Genetika no.2:39-46 Ag '65. (MIRA 18:10)

1. Institute of Radiation and Physico-Chemical Biology, Academy of Sciences of the U.S.S.R., Moscow.

APPROVED FOR RELEASE: 06/12/2000 CIA-RDP86-00513R000308510016-7"

"APPROVED FOR RELEASE: 06/12/2000 CIA-RDP86-00513R000308510016-7

BRESLER, S.Ye.; KRIVISKIY, A.S.; PERUMOV, D.A.; CHERNIK, T.P.

Comparative study of the mutagenic effect of ultraviolet radiation on Bacillus subtilis cells and transforming DNA. Genetika no.5: 53-60 N '65. (MIRA 19:1)

1. Institut vysokomolekulyarnykh soyedineniy AN SSSR, Leningrad i Institut molekulyarnoy biologii AN SSSR, Moskva. Submitted February 5, 1965.

APPROVED FOR RELEASE: 06/12/2000 CIA-RDP86-00513R000308510016-7"

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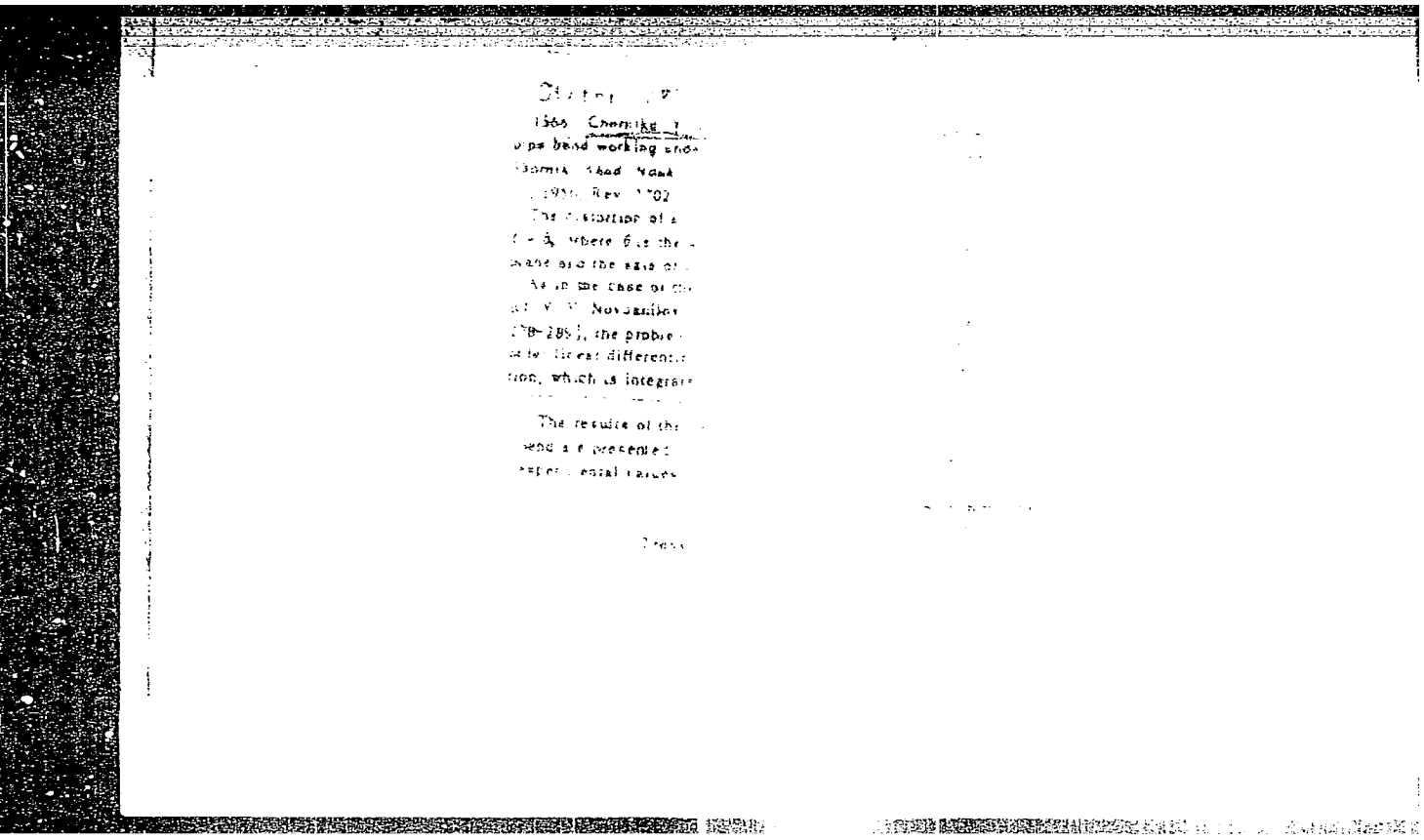

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"APPROVED FOR RELEASE: 06/12/2000 CIA-RDP86-00513R000308510016-7

KROL', E.G., inzh.; KHOKHLOVA, A.N., inzh.; BEGLYAROV, S.A., inzh., rukovoditel' raboty; IGNATYUK, G.L., glavnyy red.; KAGAN, G.S., zamestitel' glavnogo red.; GANKIN, M.Z., red.; DEVILLERS, B.P., red.; ZHEREBTSOV, V.V., red.; ZHUKOV, G.A., red.; KREMER, Ye.S., red.; OFFENGENDEN, S.R., red.; PAVLOV, Ye.L., red.; PETROVSKAYA, I.V., red.; FAYNTSIMMER, V.M., red.; FROG, N.P., red.; CHERNIKEVICH, L.A., red.; SHAPAYEV, A.M., red.

[Special operating conditions of irrigation pumping stations.] Spetsial'nye rezhimy orositel'nykh nasosnykh stantsii. Moskva, Giprovodkhoz, 1964. 136 p. (Moscow. Vsesoiuznyi proektno-izyskatel'skii i nauchno-issledovatel'skii institut Giprovodkhoz. Trudy, no.27). (MIRA 19:1)

1. Nachal'nik otdela nasosnykh stantsiy Vsesoyuznogo gosudarstvennogo proyektno-izyskatel'skogo i nauchno-issledovatel'skogo instituta vodokhozyaystvennogo stroitel'stva (for Beglyarov).

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"APPROVED FOR RELEASE: 06/12/2000 CIA-RDP86-00513R000308510016-7

CHERNIKEVICH, L.A.

SUBJECT: USSR/Melioration

99-3-7/7

AUTHOR: Chernikevich, L.A., Engineer

TITLE: "Typical Projects for Melioration Construction." (Tipovyye proyekty dlya gidromeliorativnogo stroitel'stva)

PERIODICAL: Gidrotekhnika i Melioratsiya, 1957, # 3, pp 55-65, (USSR)

ABSTRACT: A large number of typical projects for melioration has been developed by the Ministry of Water Economics and the Ministry of Agriculture. Together with the typical projects are forwarded cost estimates. A list of typical projects, approved prior to Jan 1957 by USSR Ministry of Agriculture is given below. Projects which were prepared and approved in 1955-56 by GIDROVODKHOZ, ROSGIPROVODKHOZ, LENGIPROVODKHOZ and others are superior to the previous ones. Typical projects which are being subjected to further testing have a limited approval period of 2 years. For timely reproduction and distribution a special printing department has been established in 1956.

Typical projects, approved in 1955-56 for melioration use are:

I. Gates, sluices, flumes, and driveways over irrigation

Card 1/2

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"APPROVED FOR RELEASE: 06/12/2000 CIA-RDP86-00513R000308510016-7

99-3-7/7

TITLE: "Typical Projects for Melioration Construction".
(Tipovyye proyekty dlya gidromeliorativnogo stroitel'stva)

systems of prefabricated reinforced concrete or concrete;
II. Dams, spillways, gates, floodgates and siphons;
III. Locks for hydro-installations;
IV. Water supply installations for farms;
V. Water - lifting devices;
VI. Experimental water-lifting devices for ranches;
VII. Typical schemes and standard cross sections;
VIII. Manuals and Catalogs;
IX. Typical installations for irrigation systems.

The article contains 1 table (9 pages)

ASSOCIATION: Ministry of Agriculture of the USSR
ГОСТРОЙ СССР - GOSTROY SSR
ГЛАВВОДХОЗ СССР - GLAVVODKHOZ SSR
PRESENTED BY:
SUBMITTED:
AVAILABLE: At the Library of Congress.

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"APPROVED FOR RELEASE: 06/12/2000 CIA-RDP86-00513R000308510016-7

SOV/99-58-11-9/9

AUTHOR: Chernikevich, L.A., Engineer

TITLE: The Mechanized Uprooting of Jungles on Ceylon (Mekhanizatsiya raskorchevki dzhungley na Tseylone)

PERIODICAL: Gidrotekhnika i melioratsiya, 1958, Nr 11, pp 62 - 64 (USSR)

ABSTRACT: In 1957, five Soviet specialists visited the island of Ceylon to study methods of the mechanized removal of primeval jungle. The machines used and methods applied are described. The costs of preparing one hectare of forest for the growing of agricultural crops is given. There are 4 photos.

Card 1/1

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"APPROVED FOR RELEASE: 06/12/2000 CIA-RDP86-00513R000308510016-7

BEREZINSKIY, A.R., prof., doktor tekhn.nauk; SOKOLOVA, V.F., mladshiy nauchn.sotrudnik; ALIPOV, V.V., mladshiy nauchn.sotrudnik. Prinimali uchastiye: CHERNIKEVICH, L.A., inzh.; SHEVYAKOV, M.N.; TSEPKE, V.F., inzh.; GRISHIN, M.M., prof., doktor tekhn. nauk, retsenzent; STANKEVICH, V.I., inzh., red.; BORSHCHEVSKAYA, N.M., red.izd-va; MEDVEDEV, L.Ya., tekhn.red.

[Using precast reinforced concrete in hydraulic engineering structures] Primenenie sbornogo zhelezobetona v gidrotekhnicheskikh sooruzheniiakh. Pod red. A.R.Berezinskogo. Leningrad, Gos.izd-vo lit-ry po stroit., arkhit. i stroit.materialam, 1959. 430 p. (MIRA 12:8)

1. Giprovodkhoz (for Chernikevich). 2. Gidroproyekt (for Shevyakov).
(Hydraulic engineering)
(Precast concrete construction)

APPROVED FOR RELEASE: 06/12/2000 CIA-RDP86-00513R000308510016-7"

"APPROVED FOR RELEASE: 06/12/2000 CIA-RDP86-00513R000308510016-7

15(6),25(5) SOV/99-59-7-1/9

AUTHOR: Chernikevich, L. A., Engineer

TITLE: Means of Cost Reduction of Prefabricated Reinforced Concrete Hydraulic Installations in Land Melioration Works

PERIODICAL: Gidrotekhnika i Melioratsiya, 1959, Nr 7, pp 3-9 (USSR)

ABSTRACT: Until 1955 the use of prefabricated reinforced concrete in land reclamation development amounted to about 2% of the total consumption of concrete. However, over the last three years this use has sharply increased and amounted in 1958 to about 20% of the total concrete consumption. At the present time there are about 130 different types of reinforced concrete structures required for construction of various installations used in land reclamation, and this figure shows a steady tendency to increase. The first step to take in order to cut down the cost of these prefabricated reinforced concrete structures would be to standardize their types and reduce their number. The reinforced concrete, blocks and pipes, which are the main components used in land reclamation development, should be unified as much as possible.

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Means of Cost Reduction of Prefabricated Reinforced Concrete Hydraulic Installations in Land Melioration Works

Particularly the possibility should be envisaged of using the strained concrete constructions instead of the unstrained. The use of the first type gives an economy of 26-50% (on metal) and 5-10% (on concrete), as compared to the unstrained constructions. It was used, until lately, for reinforcing prefabricated concrete blocks, the hot-rolled round steel with a fluidity limit of 2850 kg/cm^2. At present a proposition was made to replace it with the cold-flattened armature with a fluidity limit of 3500 kg/cm^2. Through application of such armature, the consumption of steel will be reduced by 10-20%. For heavy pipes with a diameter of 120 to 150 cm it is recommended to reinforce their armature by 17-22%, but to diminish the concrete volume by 27-31%. As a result, the cost of such pipes will be cut down by 22%. The thickness of protective coats on thinwalled reinforced concrete components should be reduced to 2 cm instead of 3 cm, as previously used. This will enable cutting down by 3-10% the volume of concrete used in prefabri-

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"APPROVED FOR RELEASE: 06/12/2000 CIA-RDP86-00513R000308510016-7

Means of Cost Reduction of Prefabricated Reinforced Concrete Hydraulic Installations in Land Melioration Works

cated structures. For additional protection of the armature against corrosion, and the concrete against aggressive action of water, the hydro-insulation should be used; such an insulation is accomplished by coating the concrete surface with a hot bitumen solution in gasoline or by impregnating concrete blocks with it. The realization of the above methods will permit reduction already within the next 2-3 years of the cost of prefabricated reinforced concrete structures, an improvement of their quality, less cement, steel and timber consumption and labor and additional land reclamation development. There is 1 table.

ASSOCIATION: Giprovodkhoz MSKh SSSR (Chief Administration of the Water Economy of the Ministry of Agriculture of the USSR)

APPROVED FOR RELEASE: 06/12/2000 CIA-RDP86-00513R000308510016-7"

"APPROVED FOR RELEASE: 06/12/2000 CIA-RDP86-00513R000308510016-7

VINOKUR, Ya.Ye., inzh.; CHERNIKEVICH, L.A., inzh.

Using precast reinforced concrete in hydraulic developments; at the seminar in the "Water management" pavilion, Exhibition of Achievements of the National Economy of the U.S.S.R. Gidr. i mel. 15 no.2:60-63 F '63. (MIRA 16:4)

(Hydraulic engineering--Congresses)
(Precast concrete construction)

APPROVED FOR RELEASE: 06/12/2000 CIA-RDP86-00513R000308510016-7"

"APPROVED FOR RELEASE: 06/12/2000 CIA-RDP86-00513R000308510016-7

SHUBLADZE, K.K., kand. sel'skokhoz. nauk; VINOKUR, Ya.Ye., inzh.; CHERNIKEVICH, L.A., inzh.

Production and use of precast reinforced concrete in irrigation and drainage construction work. Gidr. i mel. 15 no.7:3-13 Jl '63. (MIRA 16:8)

1. Ministerstvo sel'skogo khozyaystva SSSR (for Shubladze). 2. Glavsredazirsovkhozstroy (for Vinokur). 3. Vsesoyuznyy gosudarstvennyy proyektno-izyskatel'skiy i nauchno-issledovatel'skiy institut Ministerstva sel'skogo khozyaystva SSSR (for Chernikevich).

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"APPROVED FOR RELEASE: 06/12/2000 CIA-RDP86-00513R000308510016-7

YATSUNSKAYA, O.I.; CHERNIKEVICH, L.I.; SMIRNOV, N.A.; GUTNOV, R.B.; ZUBREV, O.N.

Production of crumbling open-hearth furnace slag. Metallurg 10 no.5:20-21 My '65. (MIRA 18:6)

1. Metallurgicheskiy zavod "Serp i molot".

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"APPROVED FOR RELEASE: 06/12/2000 CIA-RDP86-00513R000308510016-7

CHERNIKEVICH, L. P.

"Prefabricated Reinforced Concrete Hydraulic Installations in USSR Irrigation System," paper presented at the Third International Congress on Irrigationand Drainage, San Francisco, 29 Apr-4 May 1957

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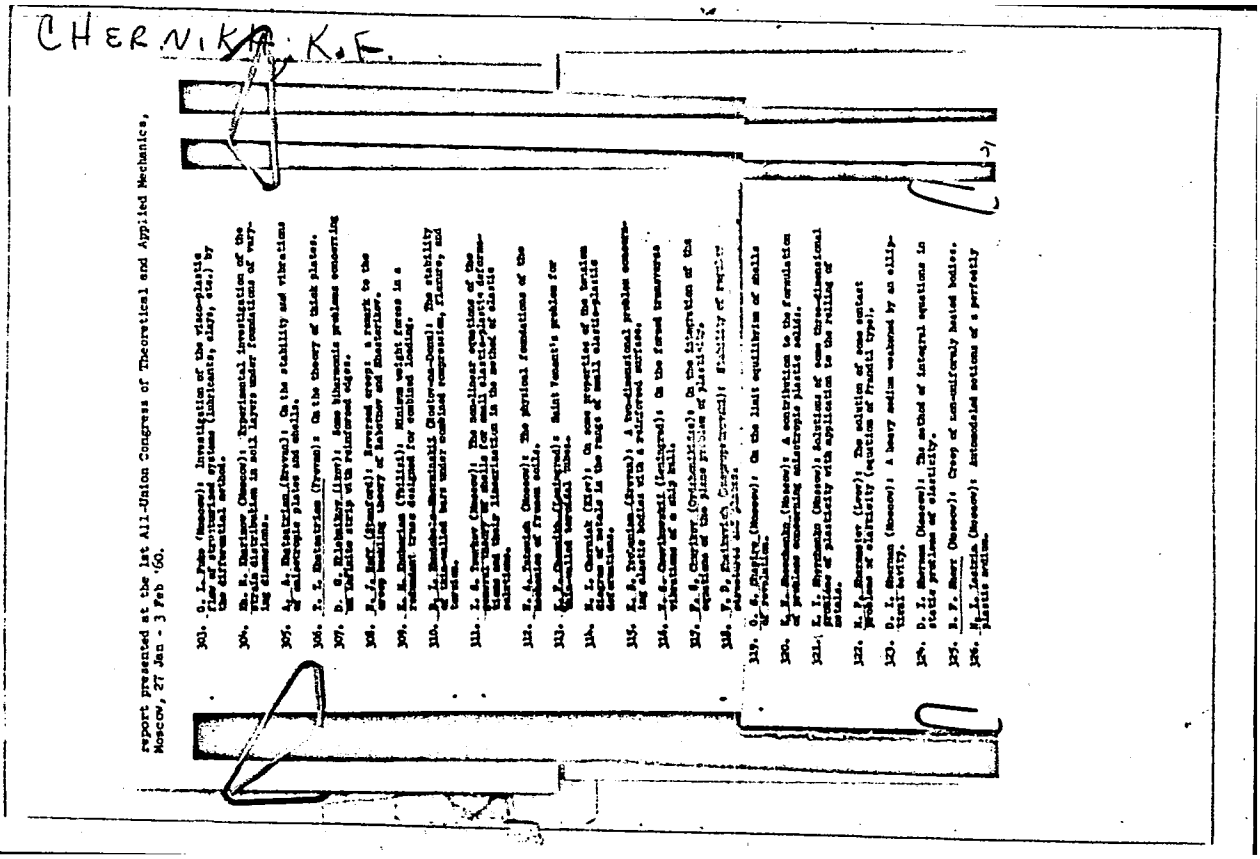

CHERNIKA. K.F.

report presented at the 1st All-Union Congress of Theoretical and Applied Mechanics, Moscow, 27 Jan - 3 Feb '60.

301. G. I. Pak (Moscow): Investigation of the visco-plastic flow of symmetrical prisms (laminants, slabs, etc.) by the differential method.

304. Kh. K. Shariyar (Moscow): Experimental investigation of the strain distribution in soil layers under foundations of varying dimensions.

305. A. A. Batalkin (Sverdl.): On the stability and vibrations of anisotropic plates and shells.

306. I. I. Vaynberg (Sverdl.): On the theory of thick plates.

307. D. M. Klyushnikov (Sverdl.): Some hydrogasis problems concerning an infinite strip with reinforced edges.

308. P. P. Bakr (Stamford): Reversed creep: a remark to the creep bending theory of Lubahn and Sturmiller.

309. E. M. Zakharian (Tbilisi): Minimum weight forms in a resonant case designed for combined loading.

310. B. M. Bratchie-Mamistvalli (Grozlyes-Donsk): The stability of cylindrical bars under combined compression, flexure, and torsion.

311. I. A. Tsurkov (Moscow): The nonlinear equations of the theory of elasticity for small elastic-plastic deformations and their linearization in the method of elastic solutions.

312. E. A. Patrick (Moscow): The general foundations of the mechanics of frozen soils.

313. L. I. Shvetsov (Leningrad): Saint Venant's problem for cylindrical bars.

314. E. I. Gerrish (Kiev): On some properties of the bending moment in the case of small elastic-plastic deformations.

315. E. A. Ivlyanin (Sverdl.): A two-dimensional problem concerning elastic bodies with a reinforced surface.

316. E. A. Chernyavskii (Leningrad): On the forced transverse vibrations of a ship hull.

317. F. A. Cherber (Orshanitsa): On the integration of the equations of the plane problem of plasticity.

318. F. B. Chernyak (Leningrad): Stability of regular systems of plates.

319. O. A. Shiriy (Moscow): On the limit equilibrium of shells of revolution.

320. E. P. Popovenko (Moscow): A contribution to the foundation of problems concerning anisotropic plastic solids.

321. E. I. Shvetsenko (Moscow): Solution of some three-dimensional problems of plasticity with application to the rolling of metals.

322. N. P. Abramov (Lvov): The solution of some contact problems of elasticity (equation of Prandtl type).

323. D. I. Sherman (Moscow): A heavy media weighted by an elliptical cavity.

324. D. I. Sherman (Moscow): The method of integral equations in static problems of elasticity.

325. E. P. Shor (Moscow): Creep of non-uniformly heated bodies.

326. M. I. Yastrib (Moscow): Intermediate notions of a perfectly plastic medium.

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"APPROVED FOR RELEASE: 06/12/2000 CIA-RDP86-00513R000308510016-7

CHERNIKOV, G., podpolkovnik; MERINYUKOV, A., kapitan

Political lessons in service troop units. Tyl i snab.Sov.Voor.Sil 21 no.3:27-30 Mr '61. (MIRA 14:6)
(Russia—Army—Education, Nonmilitary)

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VENIKOV, V.A.; TELESHEV, B.L.; CHERNIKHOV, A.M.; IOKHVIDOV, E.S.; GLAZUNOV, A.A. ; FEDOSENKO, R.Ya.; FIGNER, L.M. ; LERMAN, D.N.; MEL'NIKOV, N.A.

I.S.Bessmertnyi; on his 60th birthday. Elektrichestvo no.10: 93 0 '63. (MIRA 16:11)

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CHERNIKHOV, A.Ya.; MARGARITOVA, M.F.

Emulsion polymerization in the presence of sulfonated polystyrene. Vysokom.soed. 6 no.2:227-230 F '64. (MIRA 17:2)

1. Moskovskiy institut tonkoy khimicheskoy tekhnologii imeni Lomonosova.

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CHERNIKHOV, V. S.; URITSKAYA, V. M.

Docent, Dnepropetrovsk Affiliate of State Planning Inst. for Metallurgical Plants, -c1948-.

"Utilization of steel to replace the cast-iron charging boxes of casting machines," Stal', No. 7, 1948

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"APPROVED FOR RELEASE: 06/12/2000 CIA-RDP86-00513R000308510016-7

BRYUKHANENKO, B.A., dotsent, kand. ekonom. nauk; BEN', T.G.; GERSHTENKERN, S.Ya.; KAGAN, I.S.; PRAVDIN, M.V.; STOGNIY, A.F.; KHAKHALINA, A.N.; CHERNIKHOV, V.S.; KOBYLYAKOV, I.I., dotsent, kand. ekonom. nauk; SHIRYAYEV, P.A., kand. ekonom. nauk

"Economic aspects of ferrous metallurgy" by N.P. Bannyi, V.B. Brodskii, IA.A. Oblomskii, V.V. Rikman, L.N. Roitburd. Reviewed by B.A. Briukhanenko and others. Stal' 22 no.6: 562-565 Je '62. (MIRA 16:7)

1. Dnepropetrovskiy metallurgicheskiy institut (for Ben', Gershtenkern, Kagan, Pravdin, Stogniy, Khakhalina, Chernikhov). 2. Dneprodzerzhinskiy metallurgicheskiy zavod-vtuz (for Kobylyakov).

(Iron industry) (Steel industry)
(Brodskii, V.B.) (Oblomskii, IA.A.)
(Rikman, V.V.) (Roitburd, L.N.)

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FOMIN, G.M.; LAPSHIN, L.Ya.; TARNAVSKIY, A.L.; KAGAN, I.S.; CHERNIKHOV, V.S.

Increasing the diameter of steel rods for wire drawing. Metallurg 8 no.8:24-26 Ag '63. (MIRA 16:10)

1. Magnitogorskiy kalibrovochnyy zavod i Nauchno-issledovatel'skiy institut metiznoy promyshlennosti (for Fomin, Lapshin, Tarnavskiy).
2. Dnepropetrovskiy metallurgicheskiy institut (for Kagan, Chernikhov).

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CHERNIKHOV, V.S., kand. ekonom. nauk; KAMENSHCHIKOV, M.I.

Production and transportation of hot sinter. Met. i gornorud. prom. no.1:11 Ja-F '65. (MIRA 18:3)

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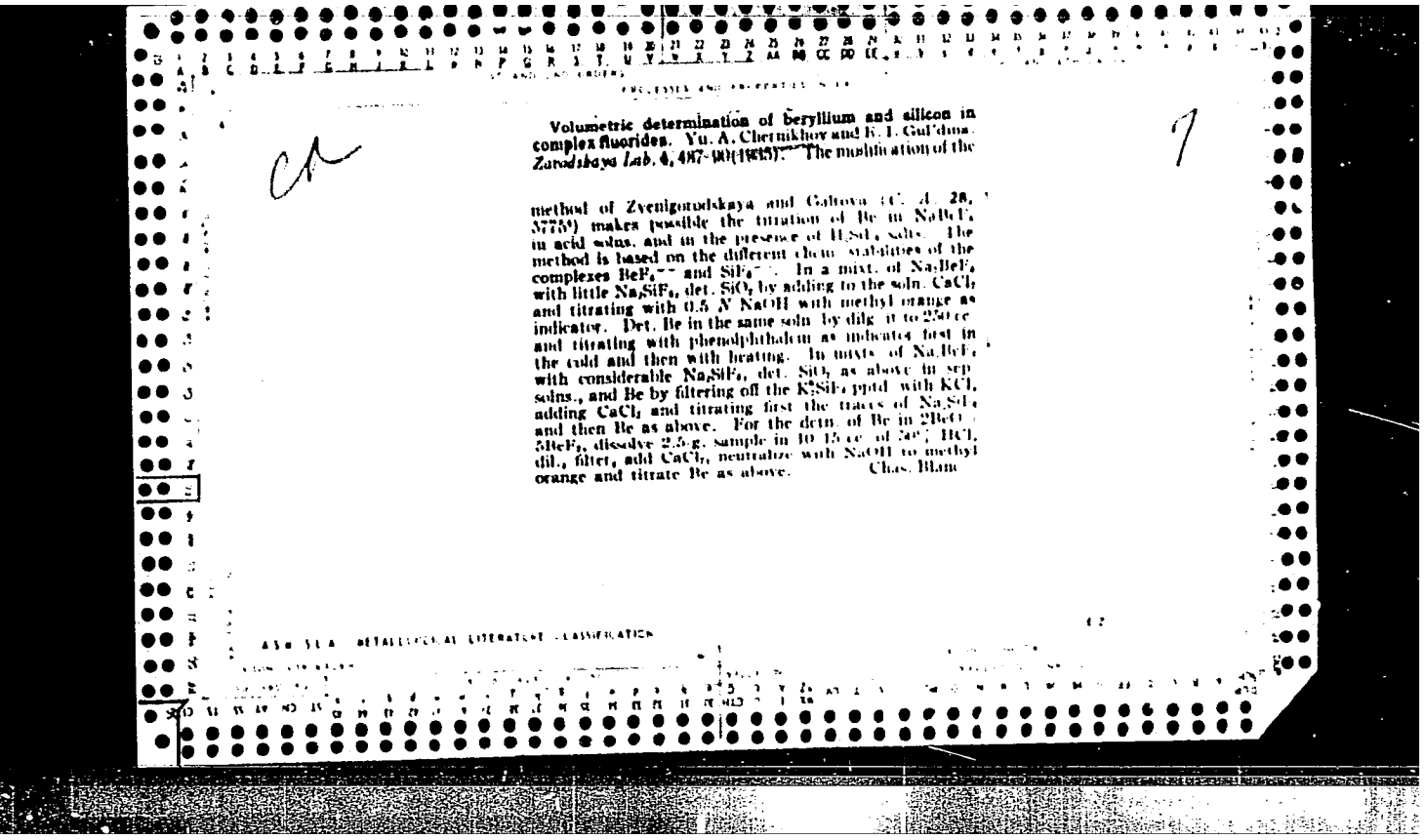

Volumetric determination of beryllium and silicon in complex fluorides. Yu. A. Chernikhov and B. I. Gul'dina. *Zavodskaya Lab.* 4, 407-10(1935). The modification of the method of Zvenigorodskaya and Galkova (C. A. 28, 3775) makes possible the titration of Be in Na_2BeF_4 in acid solns. and in the presence of H_2SiF_6 solns. The method is based on the different chem. stabilities of the complexes BeF_4^{--} and SiF_6^{--}. In a mixt. of Na_2BeF_4 with little Na_2SiF_6, det. SiO_2 by adding to the soln. $CaCl_2$ and titrating with 0.5 *N* NaOH with methyl orange as indicator. Det. Be in the same soln. by dilg. it to 250 cc. and titrating with phenolphthalein as indicator first in the cold and then with heating. In mixts. of Na_2BeF_4 with considerable Na_2SiF_6, det. SiO_2 as above in sep. solns., and Be by filtering off the K_2SiF_6 ppt'd with KCl, adding $CaCl_2$ and titrating first the traces of Na_2SiF_6 and then Be as above. For the detn. of Be in $2BeF_2 \cdot 3UF_4$, dissolve 2.5 g. sample in 10-15 cc. of 50% HCl, dil., filter, add $CaCl_2$, neutralize with NaOH to methyl orange and titrate Be as above.

Chas. Blum

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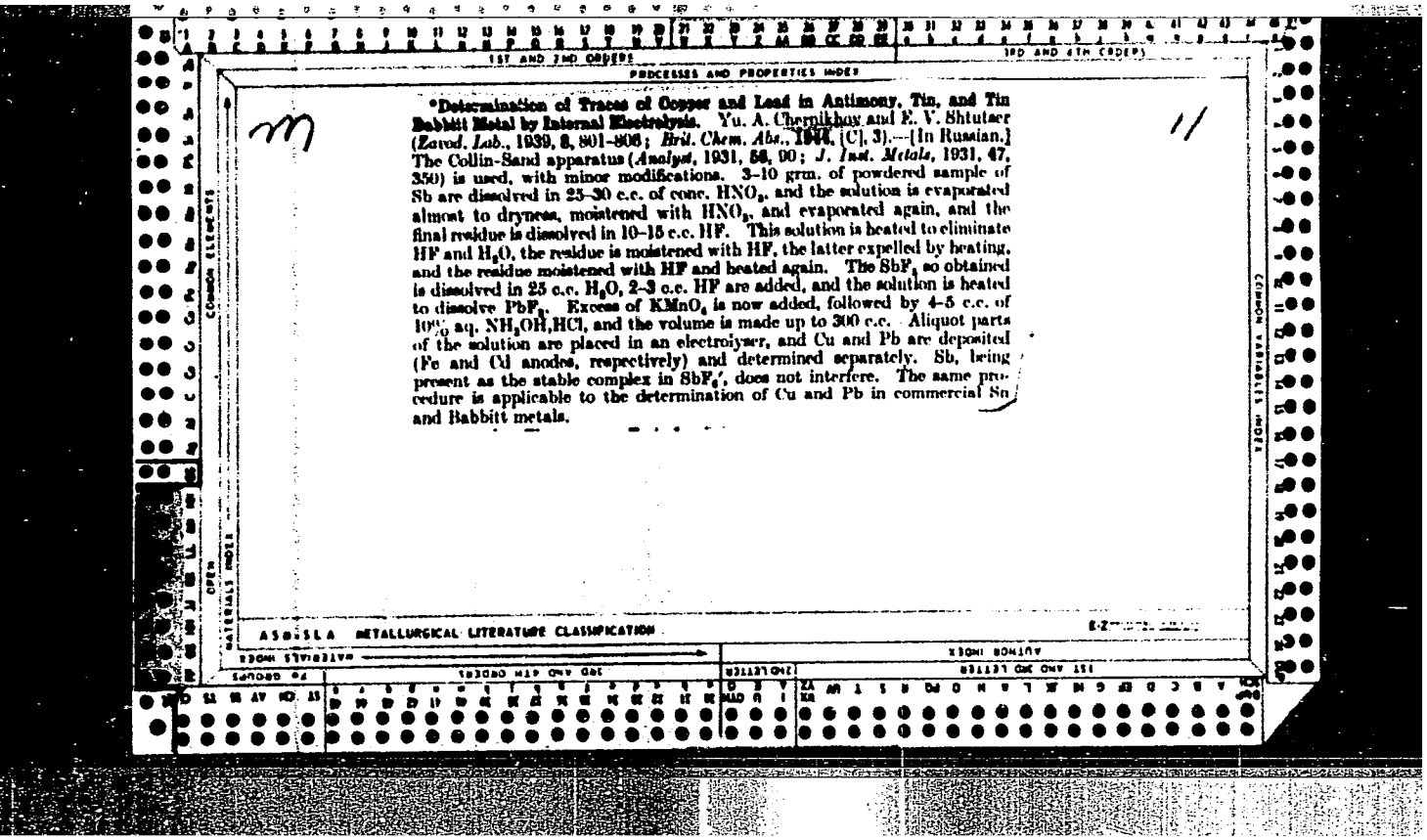

PROCESSES AND PROPERTIES INDEX

Determination of Traces of Copper and Lead in Antimony, Tin, and Tin Babbitt Metal by Internal Electrolysis. Yu. A. Chernikhov and E. V. Shtutser (*Zavod. Lab.*, 1939, **8**, 801–806; *Brit. Chem. Abs.*, 1940, [C], 3).—[In Russian.] The Collin-Sand apparatus (*Analyst*, 1931, **56**, 90; *J. Inst. Metals*, 1931, **47**, 350) is used, with minor modifications. 3–10 grm. of powdered sample of Sb are dissolved in 25–30 c.c. of conc. HNO_3, and the solution is evaporated almost to dryness, moistened with HNO_3, and evaporated again, and the final residue is dissolved in 10–15 c.c. HF. This solution is heated to eliminate HF and H_2O, the residue is moistened with HF, the latter expelled by heating, and the residue moistened with HF and heated again. The SbF_3 so obtained is dissolved in 25 c.c. H_2O, 2–3 c.c. HF are added, and the solution is heated to dissolve PbF_2. Excess of $KMnO_4$ is now added, followed by 4–5 c.c. of 10% aq. NH_2OH,HCl, and the volume is made up to 300 c.c. Aliquot parts of the solution are placed in an electrolyser, and Cu and Pb are deposited (Fe and Cl anodes, respectively) and determined separately. Sb, being present as the stable complex in SbF_6', does not interfere. The same procedure is applicable to the determination of Cu and Pb in commercial Sn and Babbitt metals.

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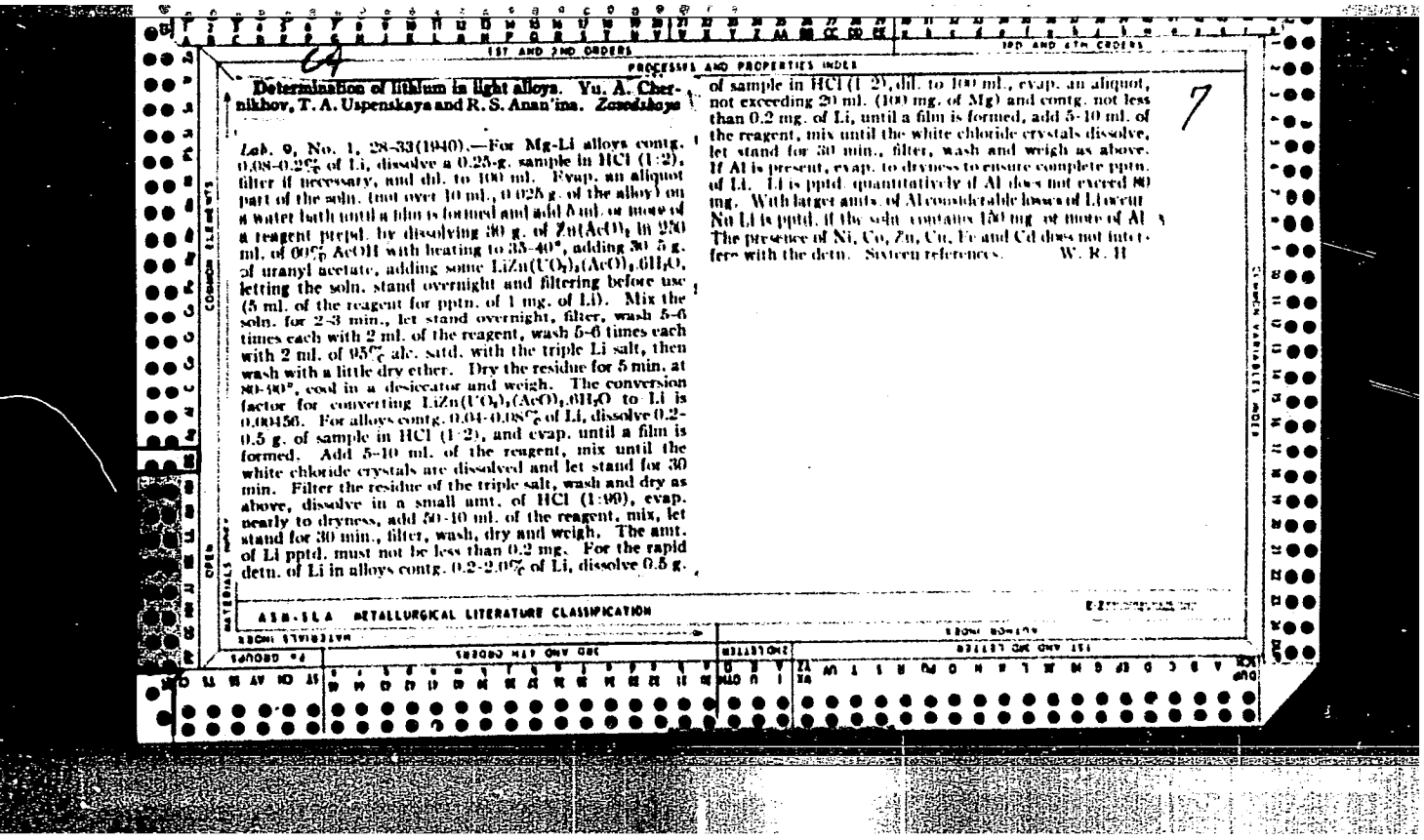

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PROCESSES AND PROPERTIES INDEX

Determination of lithium in light alloys. Yu. A. Chernikhov, T. A. Uspenskaya and R. S. Anan'ina. *Zavodskaya*

Lab. 9, No. 1, 28-33(1940).—For Mg-Li alloys contg. 0.08-0.2% of Li, dissolve a 0.25-g. sample in HCl (1:2), filter if necessary, and dil. to 100 ml. Evap. an aliquot part of the soln. (not over 10 ml., 0.025 g. of the alloy) on a water bath until a film is formed and add 5 ml. or more of a reagent prepd. by dissolving 30 g. of $Zn(AcO)_2$ in 250 ml. of 60% AcOH with heating to 35-40°, adding 30 g. of uranyl acetate, adding some $LiZn(UO_2)_3(AcO)_9.6H_2O$, letting the soln. stand overnight and filtering before use (5 ml. of the reagent for pptn. of 1 mg. of Li). Mix the soln. for 2-3 min., let stand overnight, filter, wash 5-6 times each with 2 ml. of the reagent, wash 5-6 times each with 2 ml. of 95% alc. satd. with the triple Li salt, then wash with a little dry ether. Dry the residue for 5 min. at 80-90°, cool in a desiccator and weigh. The conversion factor for converting $LiZn(UO_2)_3(AcO)_9.6H_2O$ to Li is 0.00456. For alloys contg. 0.04-0.08% of Li, dissolve 0.2-0.5 g. of sample in HCl (1:2), and evap. until a film is formed. Add 5-10 ml. of the reagent, mix until the white chloride crystals are dissolved and let stand for 30 min. Filter the residue of the triple salt, wash and dry as above, dissolve in a small amt. of HCl (1:99), evap. nearly to dryness, add 50-10 ml. of the reagent, mix, let stand for 30 min., filter, wash, dry and weigh. The amt. of Li pptd. must not be less than 0.2 mg. For the rapid detn. of Li in alloys contg. 0.2-2.0% of Li, dissolve 0.5 g. of sample in HCl (1:2), dil. to 100 ml., evap. an aliquot, not exceeding 20 ml. (100 mg. of Mg) and contg. not less than 0.2 mg. of Li, until a film is formed, add 5-10 ml. of the reagent, mix until the white chloride crystals dissolve, let stand for 30 min., filter, wash and weigh as above. If Al is present, evap. to dryness to ensure complete pptn. of Li. Li is pptd. quantitatively if Al does not exceed 80 mg. With larger amts. of Al considerable losses of Li occur. Na Li is pptd. if the soln. contains 150 mg. or more of Al. The presence of Ni, Co, Zn, Cu, Fe and Cd does not interfere with the detn. Sixteen references. W. R. H

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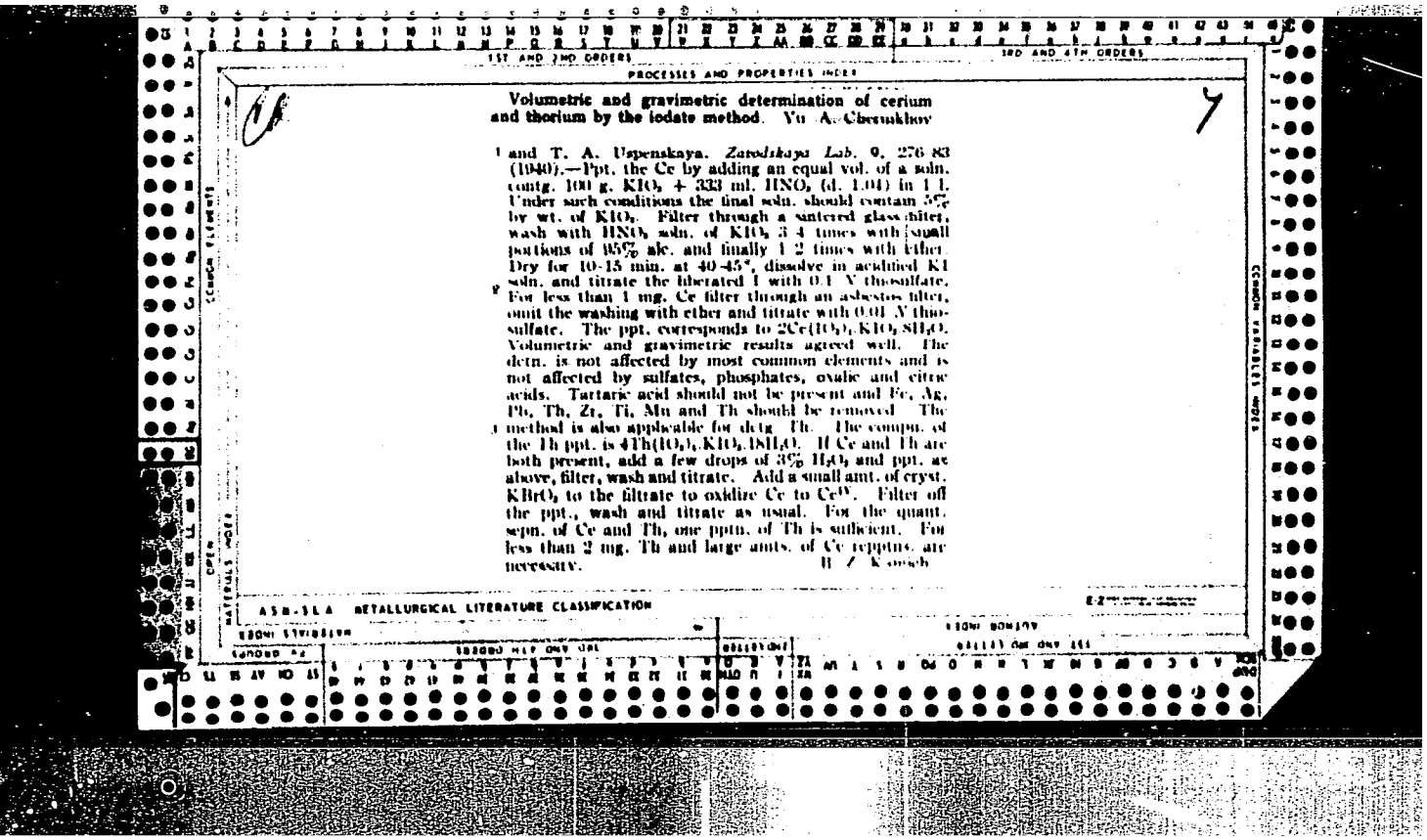

Volumetric and gravimetric determination of cerium and thorium by the Iodate method. Yu. A. Chernukhov and T. A. Uspenskaya. *Zavodskaya Lab.* 9, 276-83 (1940).—Ppt. the Ce by adding an equal vol. of a soln. contg. 100 g. KIO_3 + 333 ml. HNO_3 (d. 1.04) in 1 l. Under such conditions the final soln. should contain 5% by wt. of KIO_3. Filter through a sintered glass filter, wash with HNO_3 soln. of KIO_3 3-4 times with small portions of 95% alc. and finally 1-2 times with ether. Dry for 10-15 min. at 40-45°, dissolve in acidified KI soln. and titrate the liberated I with 0.1 *N* thiosulfate. For less than 1 mg. Ce filter through an asbestos filter, omit the washing with ether and titrate with 0.01 *N* thiosulfate. The ppt. corresponds to $2Ce(IO_3)_4.KIO_3.8H_2O$. Volumetric and gravimetric results agreed well. The detn. is not affected by most common elements and is not affected by sulfates, phosphates, oxalic and citric acids. Tartaric acid should not be present and Fe, Ag, Pb, Th, Zr, Ti, Mn and Th should be removed. The method is also applicable for detg. Th. The compn. of the Th ppt. is $4Th(IO_3)_4.KIO_3.8H_2O$. If Ce and Th are both present, add a few drops of 3% H_2O_2 and ppt. as above, filter, wash and titrate. Add a small amt. of cryst. $KBrO_3$ to the filtrate to oxidize Ce to Ce^{IV}. Filter off the ppt., wash and titrate as usual. For the quant. sepn. of Ce and Th, one pptn. of Th is sufficient. For less than 2 mg. Th and large amts. of Ce repptns. are necessary. B. Z. Kanal

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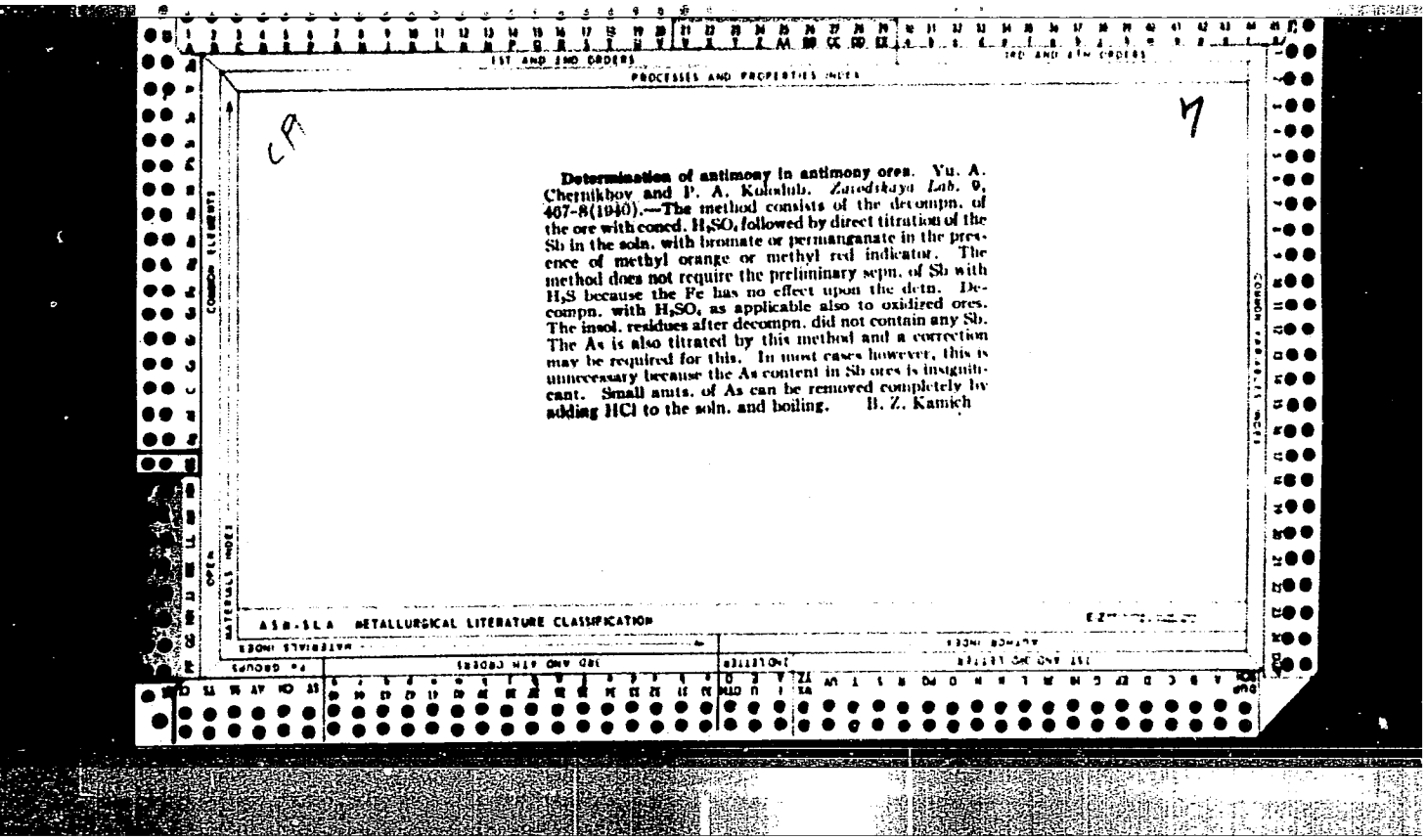

PROCESSES AND PROPERTIES INDEX

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Determination of antimony in antimony ores. Yu. A. Chernikhov and P. A. Kalulub. *Zavodskaya Lab.* 9, 407-8(1940).—The method consists of the decompn. of the ore with concd. H_2SO_4 followed by direct titration of the Sb in the soln. with bromate or permanganate in the presence of methyl orange or methyl red indicator. The method does not require the preliminary sepn. of Sb with H_2S because the Fe has no effect upon the detn. Decompn. with H_2SO_4 as applicable also to oxidized ores. The insol. residues after decompn. did not contain any Sb. The As is also titrated by this method and a correction may be required for this. In most cases however, this is unnecessary because the As content in Sb ores is insignificant. Small amts. of As can be removed completely by adding HCl to the soln. and boiling. B. Z. Kamich

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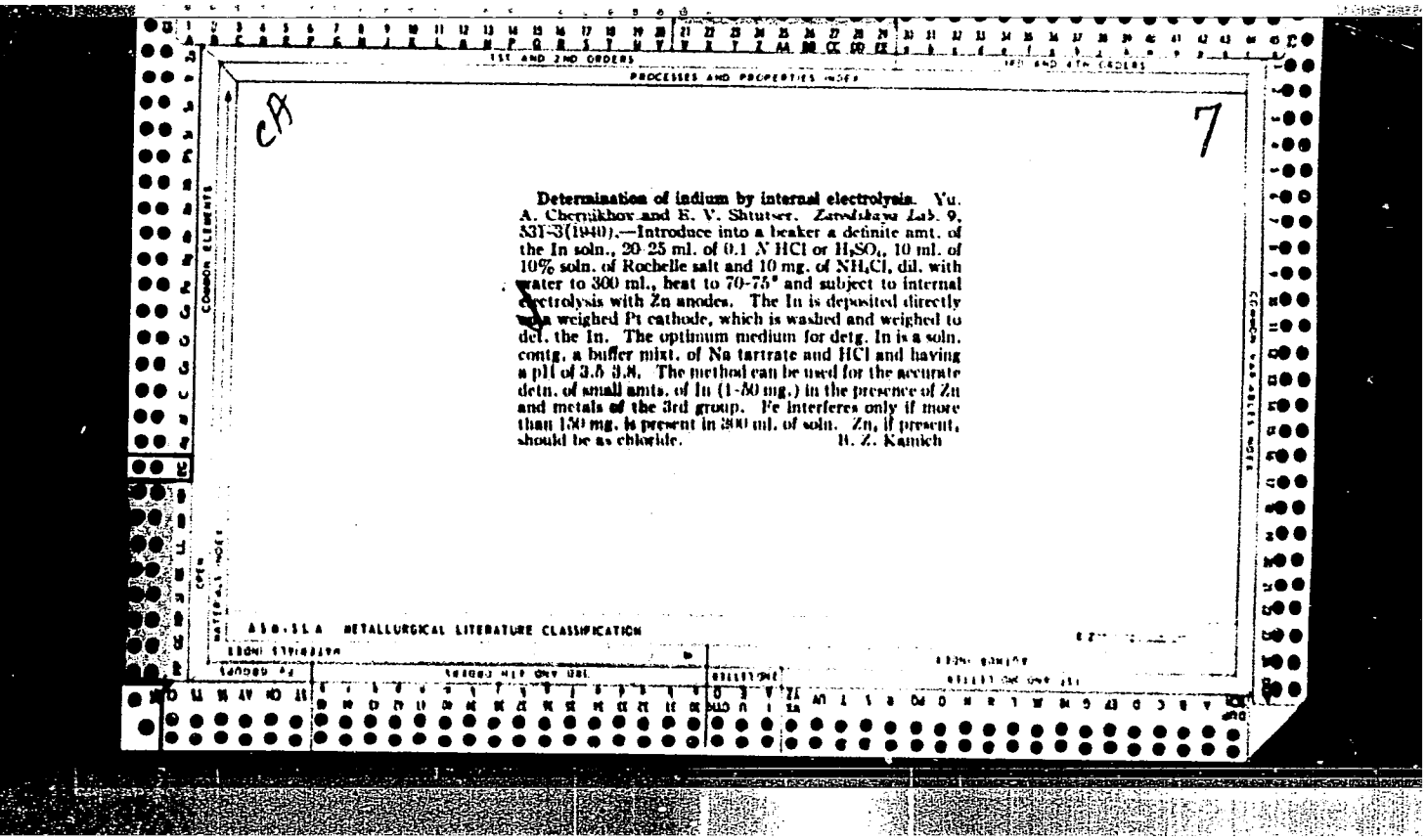

Determination of indium by internal electrolysis. Yu. A. Chernikhov and E. V. Shtutser. *Zavodskaya Lab.* 9, 831-3(1940).—Introduce into a beaker a definite amt. of the In soln., 20-25 ml. of 0.1 *N* HCl or H_2SO_4, 10 ml. of 10% soln. of Rochelle salt and 10 mg. of NH_4Cl, dil. with water to 300 ml., heat to 70-75° and subject to internal electrolysis with Zn anodes. The In is deposited directly on a weighed Pt cathode, which is washed and weighed to det. the In. The optimum medium for detg. In is a soln. contg. a buffer mixt. of Na tartrate and HCl and having a pH of 3.5-3.8. The method can be used for the accurate detn. of small amts. of In (1-50 mg.) in the presence of Zn and metals of the 3rd group. Fe interferes only if more than 150 mg. is present in 300 ml. of soln. Zn, if present, should be as chloride. B. Z. Kamich

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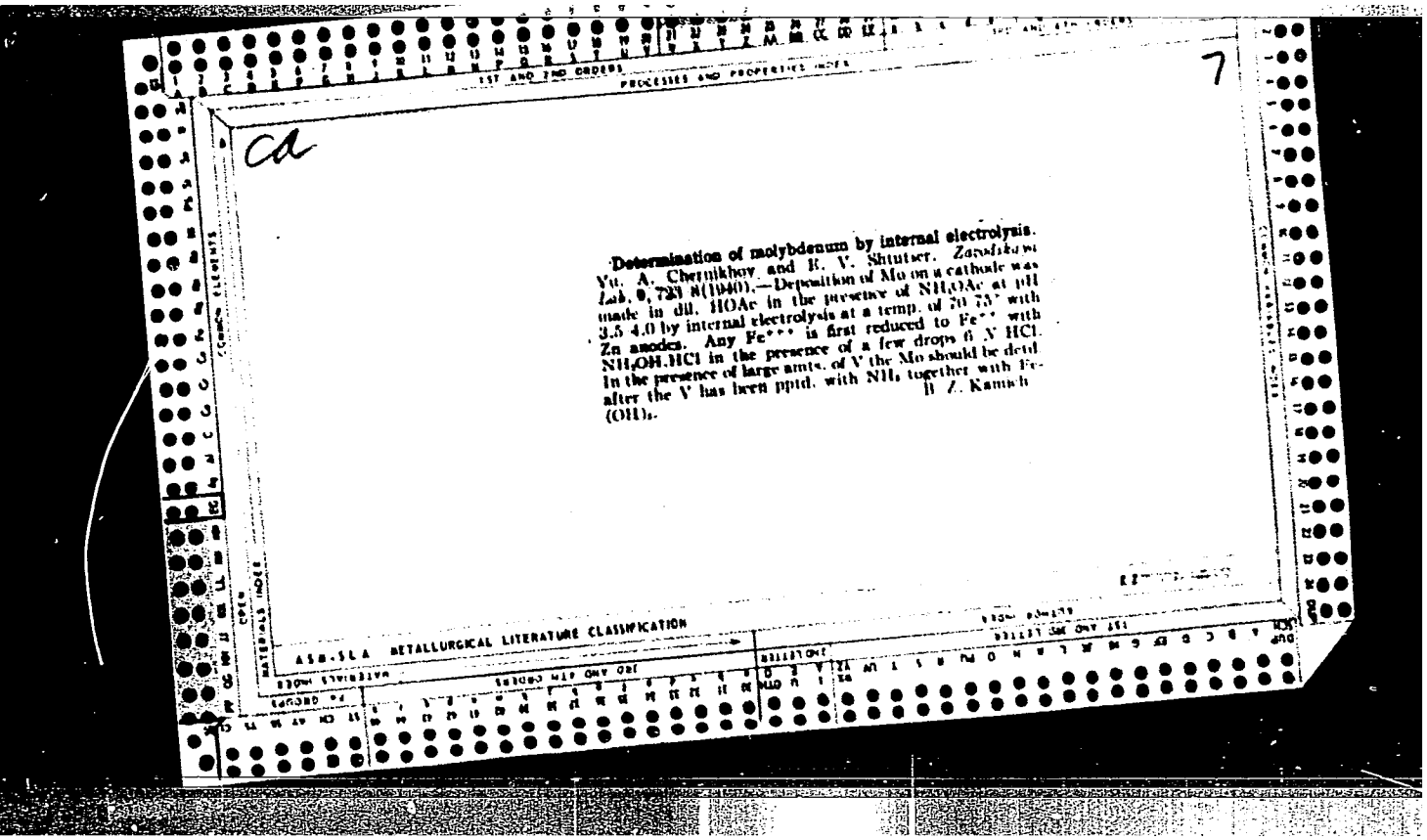

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A. C. S.

Chemistry & Physics

Precipitation of aluminum with cupferron. V. M. Zverkhovskaya and Yu. A. Chekmikov. *Zavodskaya Lab.*, 9 [10] 1089-90 (1940); *Khim. Referat. Zhur.*, 4 [4] 72-73 (1941).—Ta, Cb, Zr, Ti, Fe, and V are first precipitated in an acid medium with cupferron. The acid filtrate is carefully neutralised with ammonia and cooled. To the cooled neutral solution is added 20 ml. of an acetate buffer made up of 7 gm. CH_3COONH_4 and 2 ml. of CH_3COOH per 100 ml. In the resulting solution having a pH of 4 to 5, cupferron-aluminum complex is precipitated. The precipitate is filtered off and washed with cold 0.1% cupferron slightly acidified with CH_3COOH. The precipitate is ashed and ignited, the temperature being gradually increased to 1100°. This method was tried on pure salts and on various substances containing Al and proved satisfactory. M.Ho.

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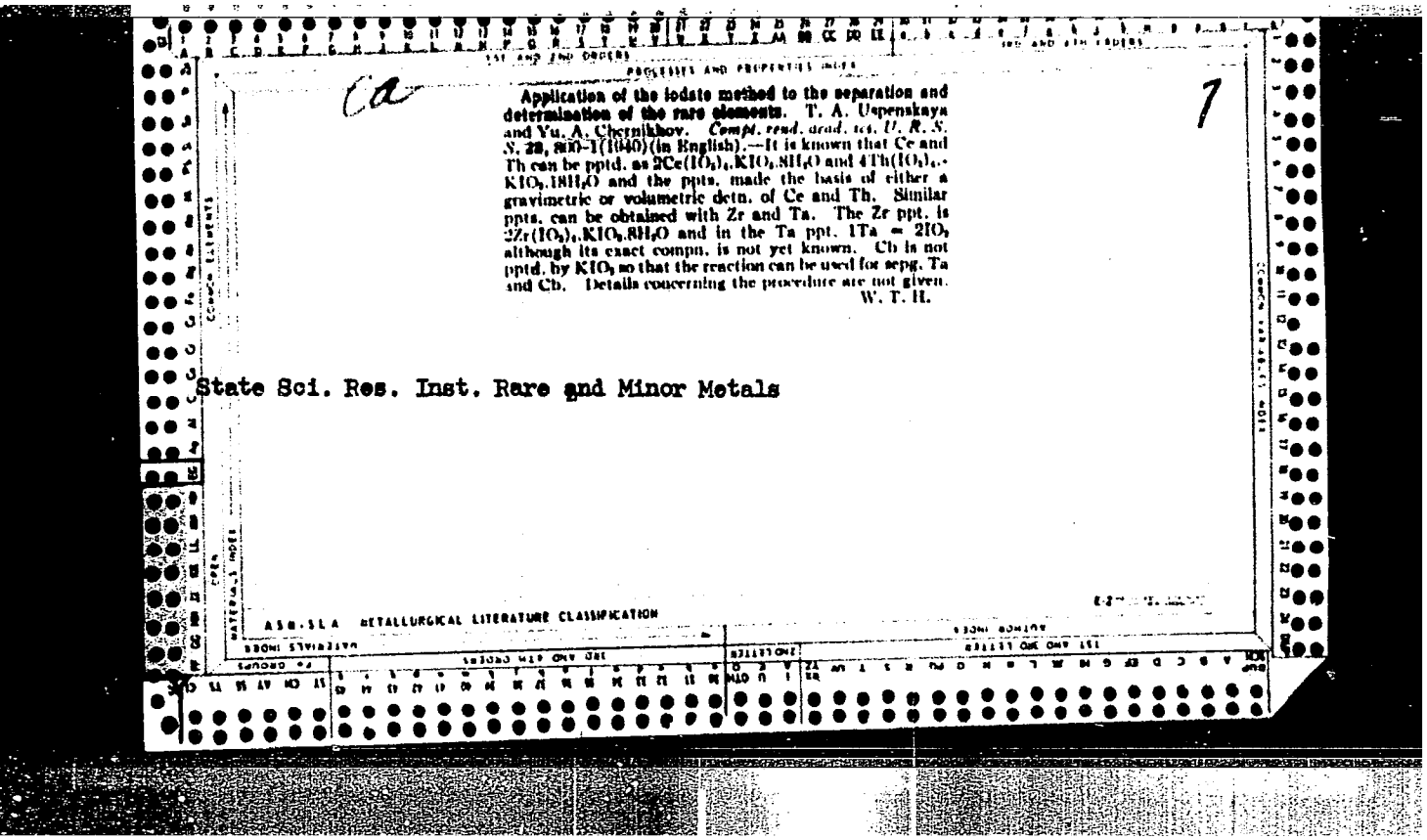

Ca

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Application of the iodate method to the separation and determination of the rare elements. T. A. Uspenskaya and Yu. A. Chernikhov. *Compt. rend. acad. sci. U. R. S. S.* 28, 810–1(1940)(in English).—It is known that Ce and Th can be ppt'd. as $2Ce(IO_3)_4.KIO_3.8H_2O$ and $4Th(IO_3)_4.KIO_3.18H_2O$ and the ppts. made the basis of either a gravimetric or volumetric detn. of Ce and Th. Similar ppts. can be obtained with Zr and Ta. The Zr ppt. is $2Zr(IO_3)_4.KIO_3.8H_2O$ and in the Ta ppt. $1Ta = 2IO_3$ although its exact compn. is not yet known. Cb is not ppt'd. by KIO_3 so that the reaction can be used for sepg. Ta and Cb. Details concerning the procedure are not given.
W. T. H.

State Sci. Res. Inst. Rare and Minor Metals

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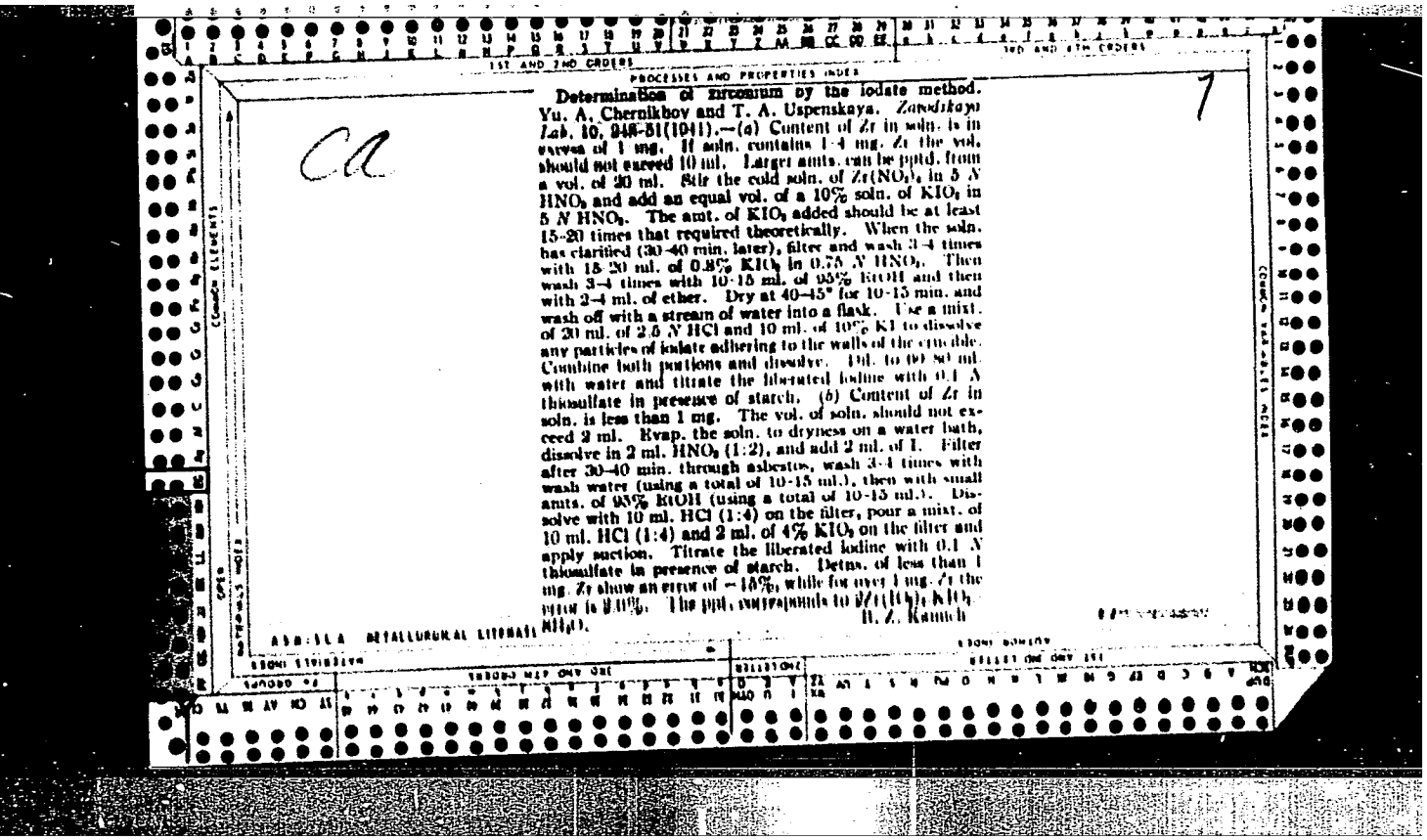

Determination of zirconium by the iodate method. Yu. A. Chernikhov and T. A. Uspenskaya. *Zavodskaya Lab.* 10, 948-51(1941).—(*a*) Content of *Zr* in soln. is in excess of 1 mg. If soln. contains 1-4 mg. *Zr* the vol. should not exceed 10 ml. Larger amts. can be ppd. from a vol. of 20 ml. Stir the cold soln. of $Zr(NO_3)_4$ in 5 *N* HNO_3 and add an equal vol. of a 10% soln. of KIO_3 in 5 *N* HNO_3. The amt. of KIO_3 added should be at least 15-20 times that required theoretically. When the soln. has clarified (30-40 min. later), filter and wash 3-4 times with 15-20 ml. of 0.8% KIO_3 in 0.75 *N* HNO_3. Then wash 3-4 times with 10-15 ml. of 95% EtOH and then with 2-4 ml. of ether. Dry at 40-45° for 10-15 min. and wash off with a stream of water into a flask. Use a mixt. of 20 ml. of 2.5 *N* HCl and 10 ml. of 10% KI to dissolve any particles of iodate adhering to the walls of the crucible. Combine both portions and dissolve. Dil. to 60-80 ml. with water and titrate the liberated iodine with 0.1 *N* thiosulfate in presence of starch. (*b*) Content of *Zr* in soln. is less than 1 mg. The vol. of soln. should not exceed 2 ml. Evap. the soln. to dryness on a water bath, dissolve in 2 ml. HNO_3 (1:2), and add 2 ml. of I. Filter after 30-40 min. through asbestos, wash 3-4 times with wash water (using a total of 10-15 ml.), then with small amts. of 95% EtOH (using a total of 10-15 ml.). Dissolve with 10 ml. HCl (1:4) on the filter, pour a mixt. of 10 ml. HCl (1:4) and 2 ml. of 4% KIO_3 on the filter and apply suction. Titrate the liberated iodine with 0.1 *N* thiosulfate in presence of starch. Detns. of less than 1 mg. *Zr* show an error of −10%, while for over 1 mg. *Zr* the error is 0.0%. The ppt. corresponds to $Zr(IO_3)_4 \cdot KIO_3 \cdot HIO_3$.

R. Z. Ramich

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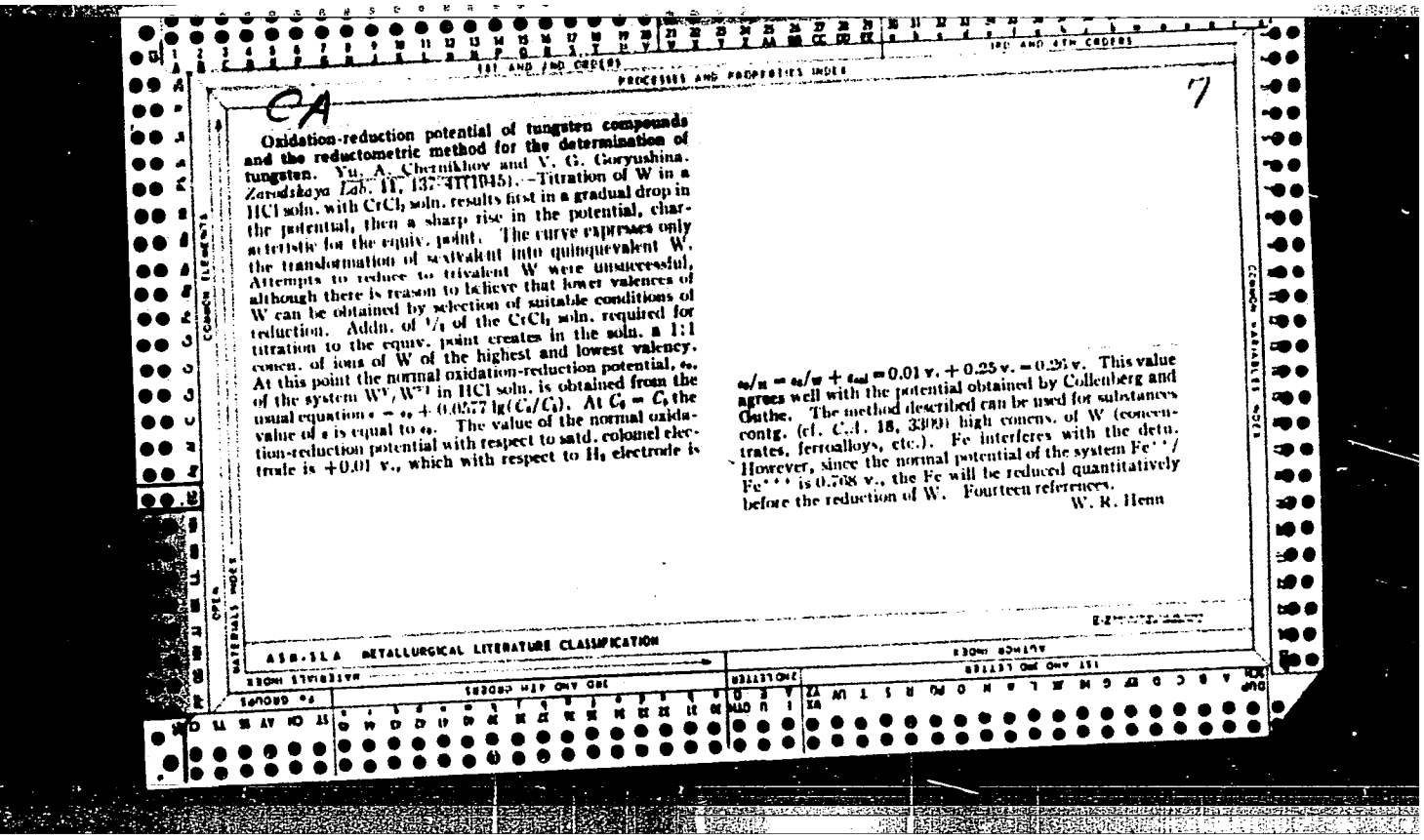

CA

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Oxidation-reduction potential of tungsten compounds and the reductometric method for the determination of tungsten. Yu. A. Chernikhov and V. G. Goryushina. *Zavodskaya Lab.* 11, 137-41(1945).—Titration of W in a HCl soln. with $CrCl_2$ soln. results first in a gradual drop in the potential, then a sharp rise in the potential, characteristic for the equiv. point. The curve expresses only the transformation of sexivalent into quinquevalent W. Attempts to reduce to trivalent W were unsuccessful, although there is reason to believe that lower valences of W can be obtained by selection of suitable conditions of reduction. Addn. of 1/4 of the $CrCl_2$ soln. required for titration to the equiv. point creates in the soln. a 1:1 concn. of ions of W of the highest and lowest valency. At this point the normal oxidation-reduction potential, ϵ_0, of the system W^V, W^{VI} in HCl soln. is obtained from the usual equation $\epsilon = \epsilon_0 + 0.0577 \lg(C_a/C_b)$. At $C_a = C_b$ the value of ϵ is equal to ϵ_0. The value of the normal oxidation-reduction potential with respect to satd. calomel electrode is +0.01 v., which with respect to H_2 electrode is $\epsilon_H = \epsilon_0 + \epsilon_{cal} = 0.01$ v. + 0.25 v. = 0.26 v. This value agrees well with the potential obtained by Collenberg and Guthe. The method described can be used for substances contg. (cf. C.A. 18, 3899) high concns. of W (concentrates, ferroalloys, etc.). Fe interferes with the detn. However, since the normal potential of the system Fe^{++}/Fe^{+++} is 0.768 v., the Fe will be reduced quantitatively before the reduction of W. Fourteen references.

W. R. Henn

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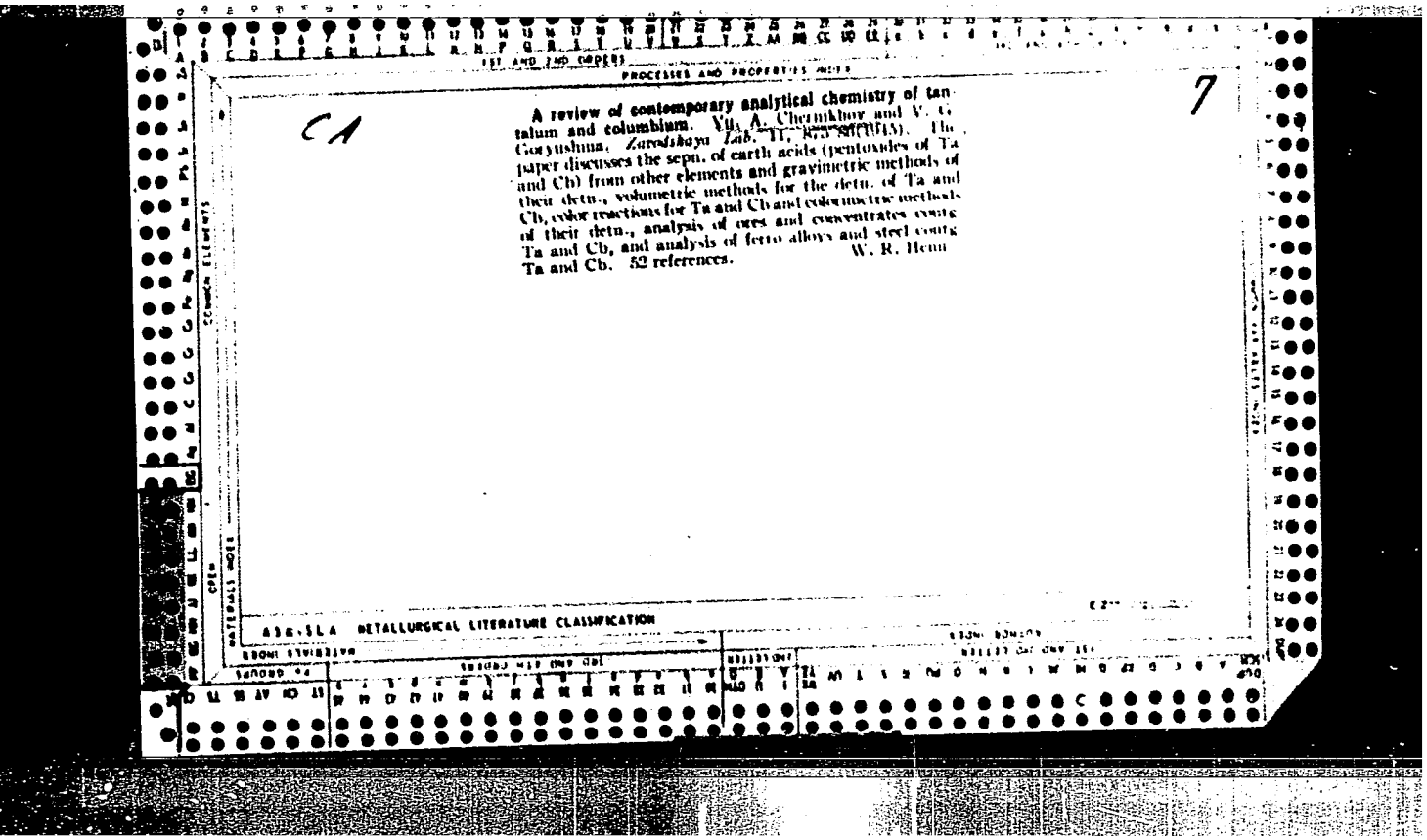

C1

7

A review of contemporary analytical chemistry of tantalum and columbium. Yu. A. Chernikhov and V. G. Goryushina. *Zavodskaya Lab.*, 11, [illegible] (1945). The paper discusses the sepn. of earth acids (pentoxides of Ta and Cb) from other elements and gravimetric methods of their detn., volumetric methods for the detn. of Ta and Cb, color reactions for Ta and Cb and colorimetric methods of their detn., analysis of ores and concentrates conts. Ta and Cb, and analysis of ferro alloys and steel conts. Ta and Cb. 52 references.

W. R. Henn

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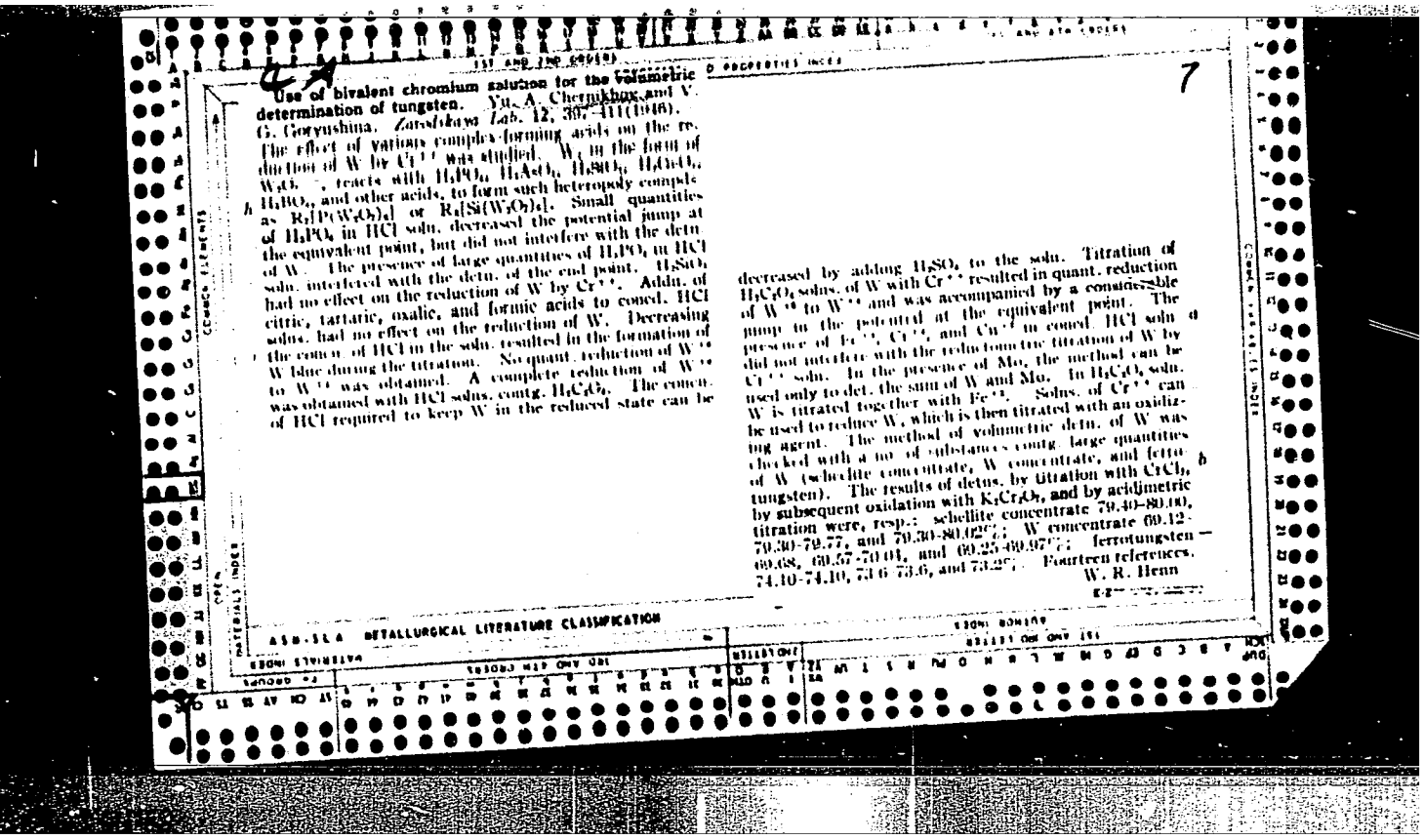

Use of bivalent chromium solution for the volumetric determination of tungsten. Yu. A. Chernikhov and V. G. Goryushina. *Zavodskaya Lab.* 12, 397–411(1946).

The effect of various complex-forming acids on the reduction of W by Cr^{++} was studied. W, in the form of WO_4^{--}, reacts with H_3PO_4, H_3AsO_4, H_2SO_4, $H_2C_2O_4$, H_3BO_3, and other acids, to form such heteropoly complexes as $R_3[P(W_2O_7)_6]$ or $R_4[Si(W_2O_7)_6]$. Small quantities of H_3PO_4 in HCl soln. decreased the potential jump at the equivalent point, but did not interfere with the detn. of W. The presence of large quantities of H_3PO_4 in HCl soln. interfered with the detn. of the end point. H_2SO_4 had no effect on the reduction of W by Cr^{++}. Addn. of citric, tartaric, oxalic, and formic acids to concd. HCl solns. had no effect on the reduction of W. Decreasing the concn. of HCl in the soln. resulted in the formation of W blue during the titration. No quant. reduction of W^{+6} to W^{+5} was obtained. A complete reduction of W^{+6} was obtained with HCl solns. contg. $H_2C_2O_4$. The concn. of HCl required to keep W in the reduced state can be decreased by adding H_2SO_4 to the soln. Titration of $H_2C_2O_4$ solns. of W with Cr^{++} resulted in quant. reduction of W^{+6} to W^{+5} and was accompanied by a considerable jump in the potential at the equivalent point. The presence of Fe^{+3}, Cr^{+3}, and Cu^{++} in concd. HCl soln. did not interfere with the reductiometric titration of W by Cr^{++} soln. In the presence of Mo, the method can be used only to det. the sum of W and Mo. In $H_2C_2O_4$ soln. W is titrated together with Fe^{+3}. Solns. of Cr^{++} can be used to reduce W, which is then titrated with an oxidizing agent. The method of volumetric detn. of W was checked with a no. of substances contg. large quantities of W (schellite concentrate, W concentrate, and ferrotungsten). The results of detns. by titration with $CrCl_3$ by subsequent oxidation with $K_2Cr_2O_7$, and by acidimetric titration were, resp.: schellite concentrate 79.40–80.10, 79.30–79.77, and 79.30–80.02%; W concentrate 69.12–69.68, 69.57–70.04, and 69.25–69.97%; ferrotungsten — 74.10–74.10, 73.6–73.6, and 73.2%. Fourteen references.

W. R. Henn

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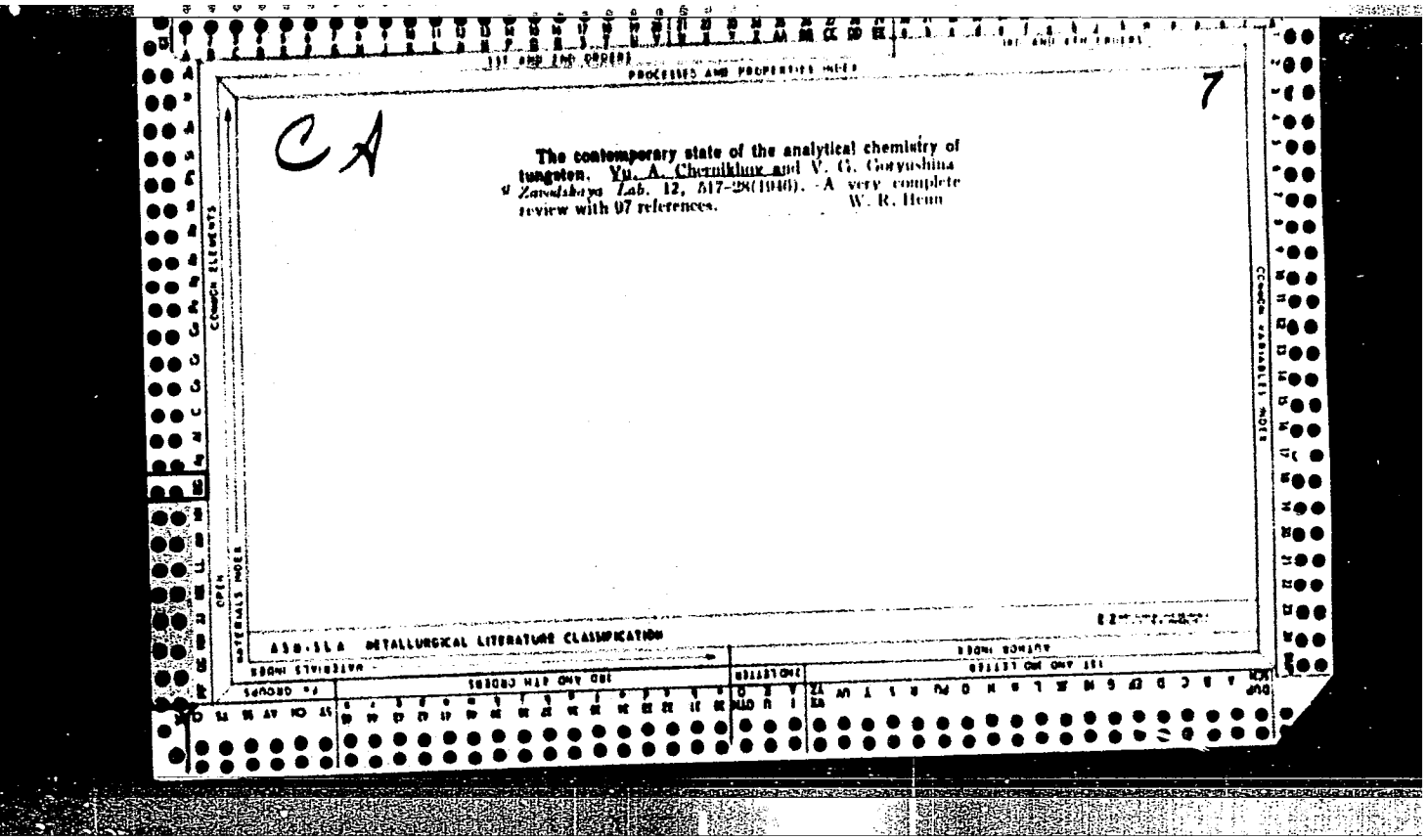

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The contemporary state of the analytical chemistry of tungsten. Yu. A. Chernikhov and V. G. Goryushina. *Zavodskaya Lab.* 12, 517-28(1946). A very complete review with 97 references. W. R. Henn

A55-11A METALLURGICAL LITERATURE CLASSIFICATION

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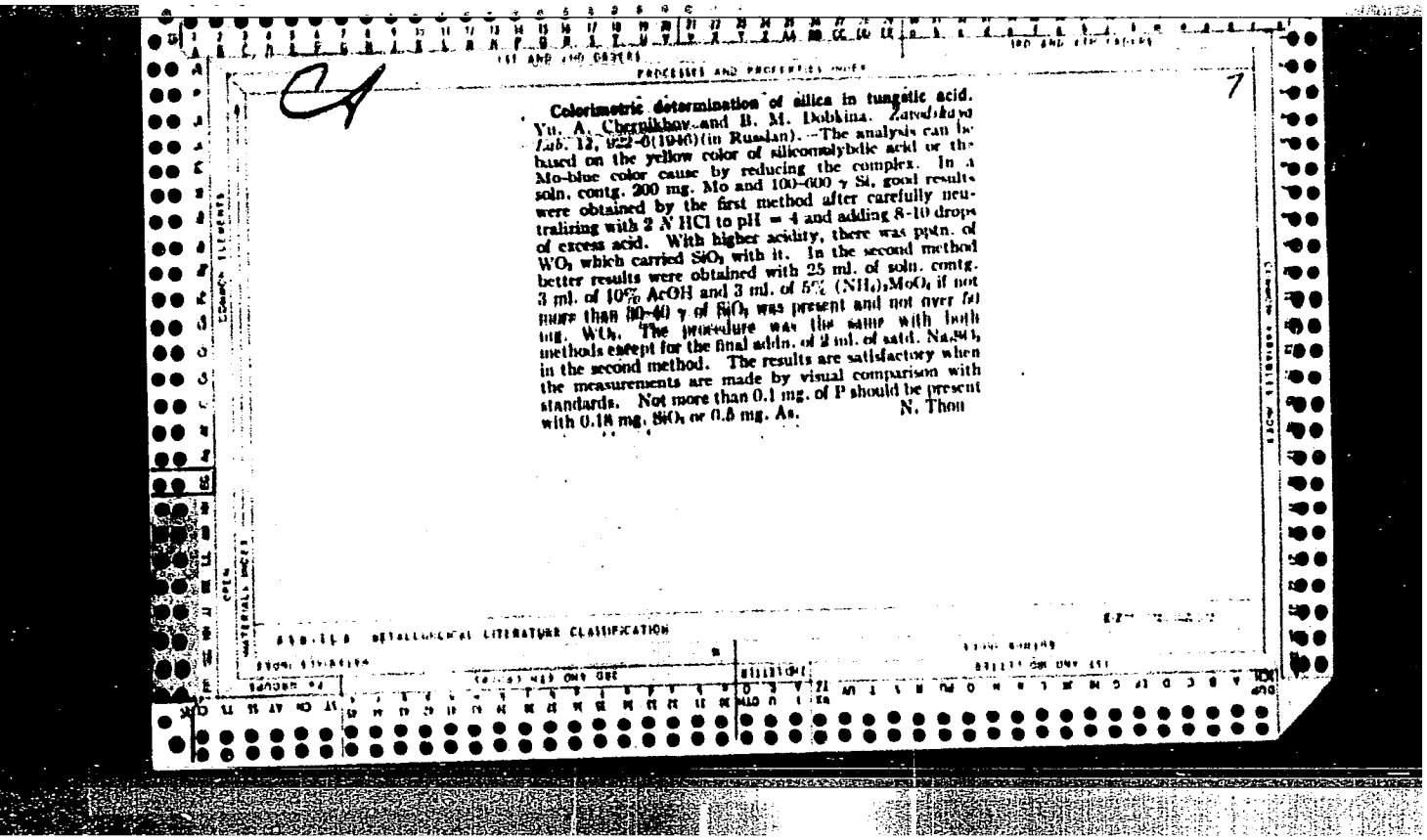

Colorimetric determination of silica in tungstic acid. Yu. A. Chernikhov and B. M. Dobkina. *Zavodskaya Lab.* 13, 922-3(1946)(in Russian).—The analysis can be based on the yellow color of silicomolybdic acid or the Mo-blue color cause by reducing the complex. In a soln. contg. 200 mg. Mo and 100–600 γ Si, good results were obtained by the first method after carefully neutralizing with 2 *N* HCl to pH = 4 and adding 8–10 drops of excess acid. With higher acidity, there was pptn. of WO_3 which carried SiO_2 with it. In the second method better results were obtained with 25 ml. of soln. contg. 3 ml. of 10% AcOH and 3 ml. of 5% $(NH_4)_2MoO_4$ if not more than 30–40 γ of SiO_2 was present and not over 50 mg. WO_3. The procedure was the same with both methods except for the final addn. of 2 ml. of satd. Na_2SO_3 in the second method. The results are satisfactory when the measurements are made by visual comparison with standards. Not more than 0.1 mg. of P should be present with 0.18 mg. SiO_2 or 0.5 mg. As. N. Thon

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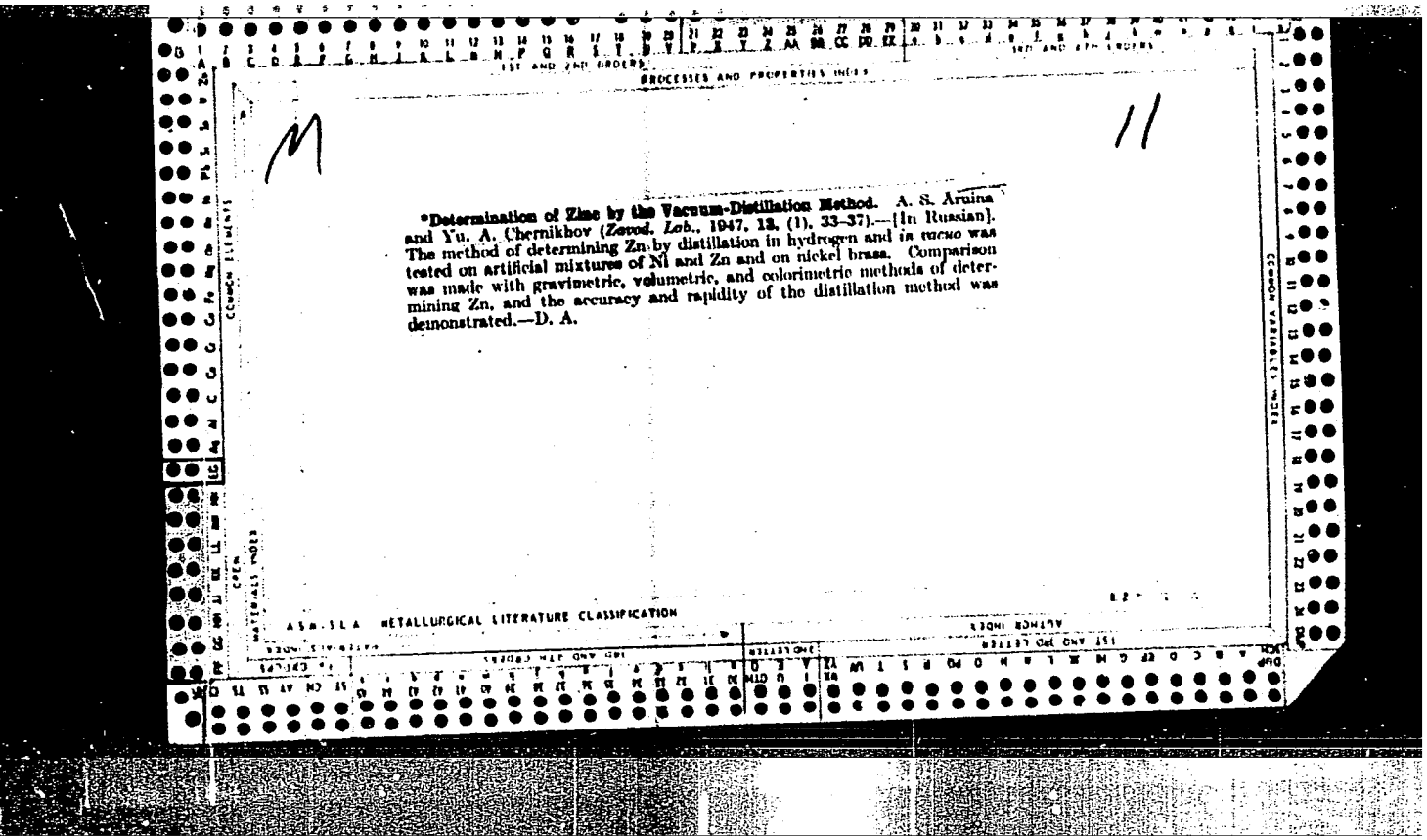

***Determination of Zinc by the Vacuum-Distillation Method.** A. S. Arutina and Yu. A. Chernikhov (*Zavod. Lab.*, 1947, **13**, (1), 33–37).—[In Russian]. The method of determining Zn by distillation in hydrogen and *in vacuo* was tested on artificial mixtures of Ni and Zn and on nickel brass. Comparison was made with gravimetric, volumetric, and colorimetric methods of determining Zn, and the accuracy and rapidity of the distillation method was demonstrated.—D. A.

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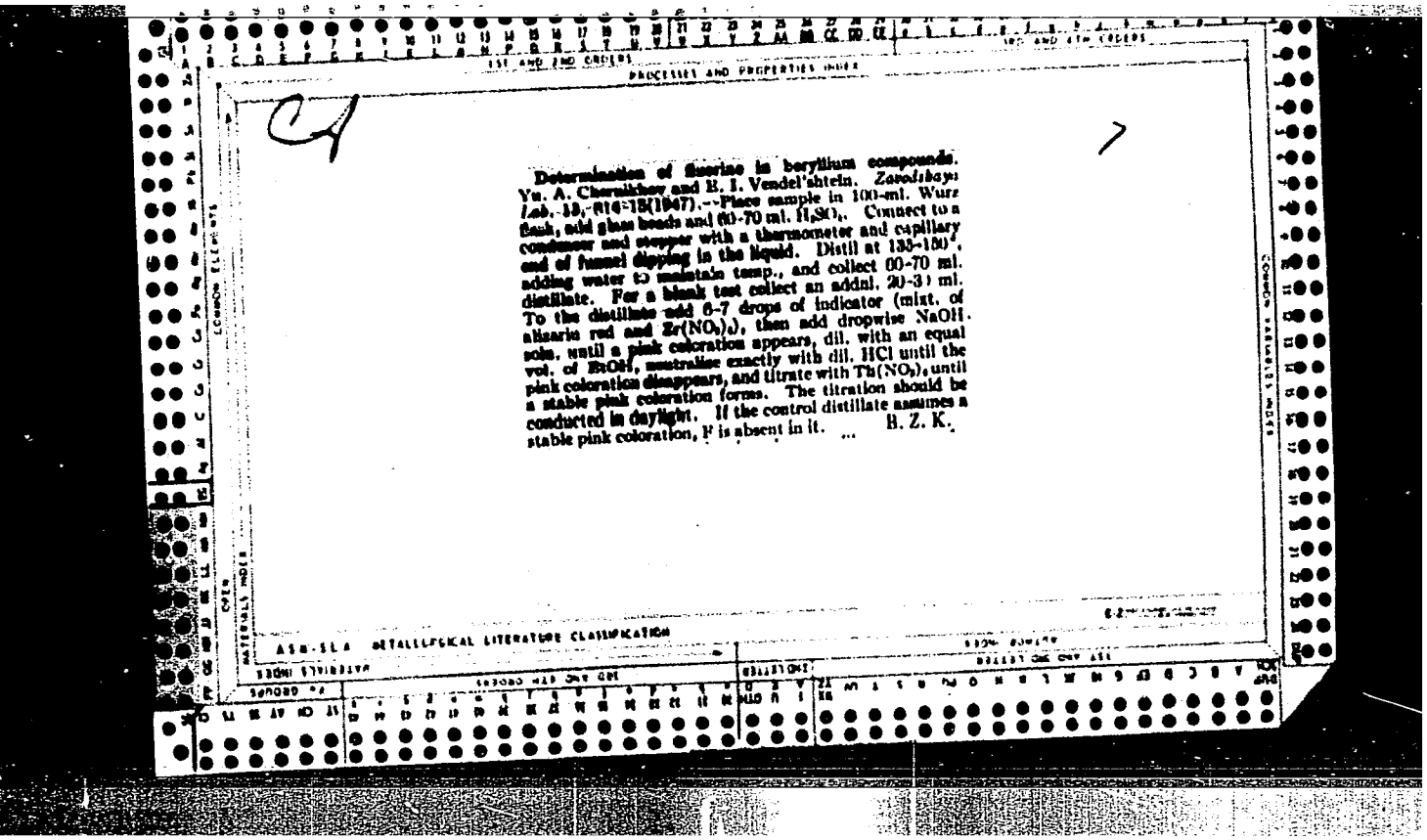

Determination of fluorine in beryllium compounds. Yu. A. Chernikhov and B. I. Vendel'shtein. *Zavodskaya Lab.* 13, 816-18(1947).—Place sample in 100-ml. Wurz flask, add glass beads and (6)-70 ml. H_2SO_4. Connect to a condenser and stopper with a thermometer and capillary end of funnel dipping in the liquid. Distil at 135-150°, adding water to maintain temp., and collect 60-70 ml. distillate. For a blank test collect an addnl. 20-30 ml. To the distillate add 6-7 drops of indicator (mixt. of alizarin red and $Zr(NO_3)_4$), then add dropwise NaOH soln. until a pink coloration appears, dil. with an equal vol. of EtOH, neutralize exactly with dil. HCl until the pink coloration disappears, and titrate with $Th(NO_3)_4$ until a stable pink coloration forms. The titration should be conducted in daylight. If the control distillate assumes a stable pink coloration, F is absent in it. ... B. Z. K.

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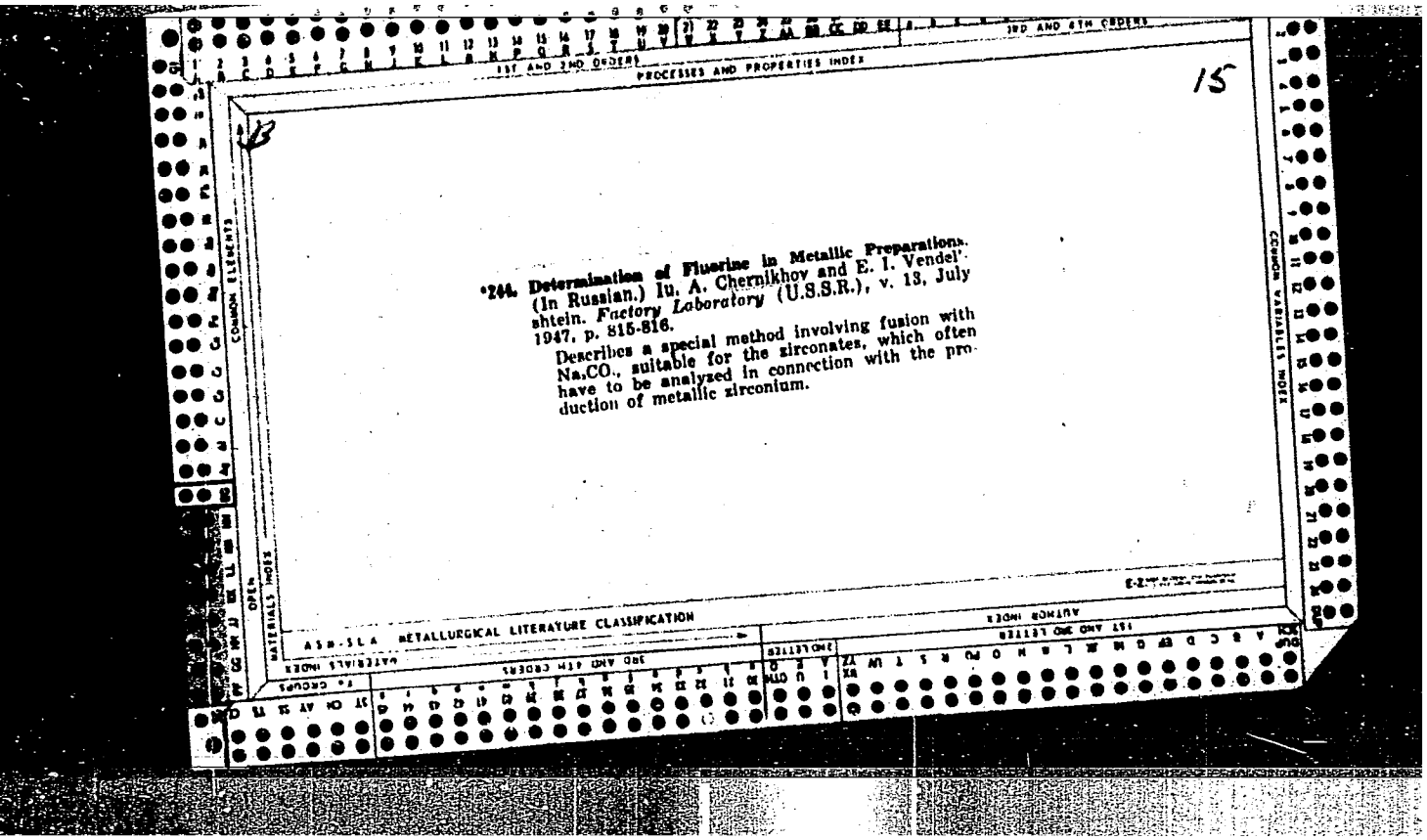

*244. **Determination of Fluorine in Metallic Preparations.** (In Russian.) Iu. A. Chernikhov and E. I. Vendel'shtein. *Factory Laboratory* (U.S.S.R.), v. 13, July 1947, p. 815-816.

Describes a special method involving fusion with Na_2CO_3, suitable for the zirconates, which often have to be analyzed in connection with the production of metallic zirconium.

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